

REGISTRATION GUIDANCE MANUAL FOR GENERATORS OF LIQUID INDUSTRIAL AND HAZARDOUS WASTE

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MINISTRY OF THE ENVIRONMENT
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Addendum – Interpretation of Guidance

For the Purposes of this Manual (including the Appendices), on and after the day subsection 2 (1) of Schedule 7 to the *Open for Business Act, 2010* comes into force:

- a reference to an approval, a certificate of approval, a provisional certificate of approval, an approval under section 9 of the *Environmental Protection Act*, an approval under Part V of the *Environmental Protection Act* or an approval under section 53 of the *Ontario Water Resources Act* shall be deemed, unless the context requires otherwise, to be a reference to an environmental compliance approval.
- a reference to a Part V approval or Part V facility shall be deemed, unless the context requires otherwise, to be a reference to a facility approved by an environmental compliance approval for activities under section 27 of the *Environmental Protection Act*.
- a reference to a section 39 Director or Regional Director shall be deemed, unless the context requires otherwise, to be a reference to a Director appointed under s.5 of the EPA.
- a reference to an OWRA approved facility, OWRA facility or MOE approved sewage works shall be deemed, unless the context requires otherwise, to be a facility approved by an environmental compliance approval for activities under section 53 of the *Ontario Water Resources Act*.

Please note that Regulatory Requirements have been included in this Manual for convenience only. A copy of current legislation and regulations should be obtained and used in conjunction with the Manual. To access legislation and regulations, please refer to Service Ontario's e-Laws site at www.e-laws.gov.on.ca/index.html or contact Service Ontario by telephone at 1-800-668-9938 (locally at 416-326-5300) or by e-mail at e-laws@ontario.ca.

TABLE OF CONTENTS

APPENDICES, LIST OF FIGURES AND TABLES	IV
1 IMPORTANT CHANGES TO THE MANUAL FOR WASTE GENERATORS	1
2 INTRODUCTION	4
3 GENERATOR REGISTRATION PROCESS	6
3.1 HOW TO DETERMINE IF REGISTRATION IS REQUIRED	6
3.1.1 Who is a Generator?	6
3.1.2 What is a Waste?	6
3.1.3 Determining When Waste is Generated	7
3.1.4 What is a Hazardous Waste?	8
3.1.4.1 What are the mixture and derived-from rules for hazardous waste?	9
3.1.4.2 How to de-list a hazardous listed waste	10
3.1.5 What is a Liquid Industrial Waste (LIW)?	10
3.1.6 Special Cases	10
3.1.7 What is a Subject Waste?	12
3.2 EXEMPTIONS	12
3.2.1 Exemptions available through Definitions, Section 1 of Regulation 347	12
3.2.1.1 Hazardous Waste and Liquid Industrial Waste Definitions	12
3.2.1.2 Subject Waste Definition	14
3.2.2 Exemptions from Part V of the EPA and Regulation 347, Section 3 of Regulation 347	16
3.2.3 Exemption for Selected Waste Depots	19
3.2.4 Exemption for Field Operations	20
3.3 OVERVIEW OF WASTE STREAMS REQUIRING GENERATOR REGISTRATION	21
3.4 DETERMINING REGISTRATION AND OTHER REGULATORY REQUIREMENTS	23
3.5 DETERMINING THE CHARACTERIZATION OF YOUR WASTE STREAM	25
3.5.1 Waste analysis requirements	29
3.5.1.1 Waste characterization using generator knowledge	29
3.5.1.2 Waste characterization using laboratory analysis	29
3.5.2 Using the Waste Characterization Flowchart	30
3.5.3 Flowchart Explanations	30
3.6 LDR AND OTHER REGULATORY REQUIREMENTS	42
3.7 DETERMINING THE APPROPRIATE WASTE CLASS FOR THE GENERATOR'S WASTE STREAM	43
3.7.1 Choosing a waste class by major or minor category	47
3.7.2 Choosing a waste class by using the description of the waste stream	47
3.7.3 Choosing a waste class by using the "main component" rule	47
3.7.3.1 Special Waste Classes	48
3.7.3.2 Contaminated Solids	48
3.7.3.3 Aqueous Wastes	49
3.7.4 Combining Wastes into a Single Waste Stream	49
3.7.5 Lab Packs	50
3.8 DETERMINING WASTE STREAMS AT WASTE RECEIVING SITES	52
4 HOW TO COMPLETE AND FILE A GENERATOR REGISTRATION REPORT	53
4.1 INITIAL GENERATOR REGISTRATION	54
4.1.1 Part 1 – Generator Identification	54
4.1.2 Part 2A – Waste Identification (Active Waste Classes)	57
4.1.3 Part 2B – Land Disposal Restrictions Notification Form	63
4.1.4 Part 3 – Request for Information	67
4.1.5 Part 4 - Payment of the Generator Registration Fee	67
4.1.5.1 Fee Payment	69
4.1.5.2 HWIN List of Recycling Facilities	70
4.1.5.3 Application to be on the HWIN List of Recycling Facilities	70

4.1.6	Part 5 – Certification (User Agreement)	71
4.2	ANNUAL GENERATOR REGISTRATION (REGISTRATION RENEWAL)	72
4.3	SUPPLEMENTARY GENERATOR REGISTRATION (REVISIONS)	72
4.4	EMERGENCY GENERATOR REGISTRATION	72
4.5	RESPONSIBILITIES OF THE GENERATOR AFTER REGISTRATION	73
4.6	MANIFESTING	74
4.6.1	Load Refusal	75
4.6.2	The use of the manifest for exempt waste.....	75
4.6.3	Corrections to Manifests.....	76
4.6.4	Load Acceptance – Refusal.....	76
5	LAND DISPOSAL RESTRICTIONS (LDR).....	77
5.1	INTRODUCTION	77
5.2	OVERVIEW OF THE LDR PROGRAM	77
5.3	APPLICABILITY OF THE LAND DISPOSAL TREATMENT REQUIREMENTS	78
5.4	LAND DISPOSAL TREATMENT REQUIREMENTS	80
5.4.1	Identifying the Treatment Requirements.....	80
5.4.1.1	Treatment Requirements for Listed Wastes.....	81
5.4.1.2	Treatment Requirements for Characteristic Wastes.....	81
5.4.1.3	Wastes that are both Listed and Characteristic	82
5.5	EXEMPTIONS FROM LAND DISPOSAL TREATMENT REQUIREMENTS.....	83
5.5.1	Wastes from a Small Quantity Generator (SQG).....	83
5.5.2	Wastes from Municipal Hazardous or Special Waste (MHSW) Depots	84
5.6	HAZARDOUS WASTES THAT ARE LAB-PACKED	85
5.7	ALTERNATE TREATMENT STANDARDS	86
5.7.1	Soils	87
5.7.2	Debris	88
5.8	NOTIFICATION, RECORD-KEEPING AND WASTE ANALYSIS PLAN REQUIREMENTS	88
5.8.1	Generators.....	89
5.8.1.1	Notification requirements (Section 84).....	89
5.8.1.2	Record-keeping Requirements.....	91
5.8.2	Processors	91
5.8.2.1	Notification Requirements (Section 84)	91
5.8.2.2	Waste Analysis Plan Requirements (Section 85).....	92
5.8.2.3	Record-keeping Requirements.....	93
5.9	VARIANCES	93
5.9.1	Case-by-Case Extension to an Effective Date.....	94
5.9.2	Variance from a Treatment Requirement.....	94
5.9.3	Equivalent Treatment Method Variance.....	94
5.10	PHASE-IN SCHEDULE FOR LDR REQUIREMENTS	95
6	WASTE MANAGEMENT.....	97
6.1	MANAGING YOUR WASTE	97
6.1.1	Mixing, blending and bulking of hazardous wastes	97
6.1.1.1	Examples of what is mixing and what is not considered mixing	98
6.1.2	Regulatory Requirements.....	99
6.1.3	On-site storage, processing and other waste management practices	102
6.1.3.1	On-Site Processing and Other Waste Management Practices	102
6.1.3.2	On-Site Storage of Subject Waste	104
6.1.3.3	Specific Cases Where Section 17.1 and Section 17.2 Do Not Apply	105
6.1.4	Requirements for Waste Disposal Sites and Waste Management Systems.....	105
	ENVIRONMENTAL LINKS	107

APPENDICES, LIST OF FIGURES AND TABLES

APPENDIX A

SCHEDULE 1 – HAZARDOUS INDUSTRIAL WASTE	A-1
SCHEDULE 1.1 – EXEMPT HAZARDOUS INDUSTRIAL WASTE	A-31
PART A OF SCHEDULE 2 – ACUTE HAZARDOUS WASTE CHEMICAL	A-33
PART B OF SCHEDULE 2 – HAZARDOUS WASTE CHEMICAL	A-46
SCHEDULE 3 – SEVERELY TOXIC CONTAMINANTS	A-70
SCHEDULE 4 – LEACHATE QUALITY CRITERIA	A-72
SCHEDULE 5 – LAND DISPOSAL TREATMENT REQUIREMENTS FOR CHARACTERISTIC WASTES	A-75
SCHEDULE 6 – UNIVERSAL TREATMENT STANDARDS (UTS) FOR CHARACTERISTIC WASTES	A-86
SCHEDULE 7 – TREATMENT METHODS AND STANDARDS	A-92
SCHEDULE 8 – ALTERNATIVE TREATMENT FOR HAZARDOUS DEBRIS	A-95
SCHEDULE 9 – TEST METHOD FOR THE DETERMINATION OF “LIQUID WASTE” (SLUMP TEST).....	A-99
SCHEDULE 10 – HAZARDOUS INDUSTRIAL WASTES REQUIRING TREATMENT BEFORE LAND DISPOSAL AS OF AUGUST 31, 2007	A-102
SCHEDULE 11– ACUTE HAZARDOUS WASTE CHEMICALS REQUIRING TREATMENT BEFORE LAND DISPOSAL AS OF AUGUST 31, 2007	A-104
SCHEDULE 12 – HAZARDOUS WASTE CHEMICALS REQUIRING TREATMENT BEFORE LAND DISPOSAL AS OF AUGUST 31, 2007.....	A-107
SCHEDULE 13 – CHARACTERISTIC WASTES REQUIRING TREATMENT BEFORE LAND DISPOSAL AS OF AUGUST 31, 2007	A-109

APPENDIX B

INSTRUCTIONS ON SUBMITTING A PAPER FORM OF THE GENERATOR REGISTRATION REPORT	B-1
INSTRUCTIONS ON COMPLETING A GENERATOR REGISTRATION REPORT ON-LINE.....	B-6
EXAMPLE OF A COMPLETED GENERATOR REGISTRATION REPORT.....	B-8
EXAMPLES OF COMPLETED LDR NOTIFICATION FORMS (PART 2B).....	B-15
ONTARIO WASTE CLASSES.....	B-28
NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) 2007	B-33

APPENDIX C

INSTRUCTIONS ON COMPLETING A PAPER FORM OF A MANIFEST	C-1
INSTRUCTIONS ON COMPLETING A MANIFEST ON-LINE.....	C-8
SAMPLE MANIFEST/MOVEMENT DOCUMENT	C-10
SAMPLE LOAD REFUSAL REPORT	C-13

APPENDIX D

SAMPLE CERTIFICATE FOR SEALED CONTAINER	D-1
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APPENDIX E

MINISTER’S REQUIREMENT FOR HAZARDOUS WASTE FEES	E-1
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APPENDIX F

MINISTRY OF THE ENVIRONMENT (REGIONAL AND DISTRICT OFFICES)	F-1
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APPENDIX G

QUESTIONS AND ANSWERS.....	G-1
----------------------------	-----

APPENDIX H

NOTICE OF THE STORAGE OF SUBJECT WASTE	H-1
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APPENDIX I

GENERATOR REGISTRATION AND LAND DISPOSAL RESTRICTIONS REPORTING.....	I-1
APPENDIX J	
DECLARATION OF WASTES SUBJECT TO LAND DISPOSAL RESTRICTIONS	J-1

LIST OF FIGURES

Figure 3.1 – Overview of Waste Streams Requiring Generator Registration	24
Figure 3.2 – Steps to Determine Registration and Other Regulatory Requirements	26
Figure 3.3 – Waste Characterization Flowchart	34
Figure 3.4 – Do LDR Regulatory Requirements Apply to Your Waste?	44
Figure 3.5 – Registration and Other Regulatory Requirements – Wastes Not Subject to the LDR Program....	45
Figure 3.6 – Registration and Other Regulatory Requirements – Wastes Subject to the LDR program	46
Figure 4.1 – How to Complete Part 2 of the Waste Generator Registration Process	59
Figure 4.2 – Declaration of Waste Streams Subject to Land Disposal Restrictions	64

LIST OF TABLES

Table 3.1 – Do any exemptions from waste generator registration apply?	27
Table 5.1 – Summary of phase-in dates for LDR program requirements	95
Table 6.1 – Options for managing hazardous waste and associated regulatory requirements.....	100

GLOSSARY OF TERMS

The definitions marked by an asterisk (*) mean that the term is not defined in Regulation 347. The following definitions are provided for guidance purposes only. If a term is defined in Regulation 347 but the full definition is not reproduced in this glossary, the description will include the words “is defined in Regulation 347.” Where a regulatory definition is followed by additional information for guidance purposes, the additional information appears in italics. Users of the Registration Guidance Manual for Generators of Liquid Industrial and Hazardous Waste (manual) should refer to Section 1 of Regulation 347 for all the definitions that are contained in the regulation.

Aqueous Waste: Waste that is aqueous and contains less than one per cent total organic carbon by weight, and less than one per cent total suspended solids by weight. *Concentration requirements for aqueous wastes are based on analysis of composite samples on a milligram per litre (mg/L) basis.*

***Biomedical Waste:** Waste that is generated from the health care sector and activities that may pose potential risks to public health, safety and the environment. Biomedical waste is defined in Guideline C-4: The Management of Biomedical Waste in Ontario, November 2009, as amended from time to time (Guideline C-4).

Carrier: The operator of a waste transportation system, *including any person who is engaged in the off-site transportation of waste by air, rail, road, highway or water.*

***Certificate of Approval (C of A):** A legal document that permits and controls how specific activities (e.g., waste management systems) may be carried out. The requirements set out in a C of A are binding on the holder, and enforceable under provincial legislation. Section 27 of the (EPA) states that “no person shall use, operate, establish, alter, enlarge or extend, a waste management system or a waste disposal site, unless a certificate of approval or provisional certificate of approval” that authorizes the activity has been issued by the Director. Unless otherwise noted, this manual uses the term C of A to refer to a waste certificate of approval or provisional certificate of approval issued under Part V of the EPA. For further information on a waste management C of A, please refer to the Ministry’s document entitled, “Protocol for Updating Certificates of Approval for Waste Management,” which can be accessed using the following link: <http://www.ene.gov.on.ca/envision/gp/5017e.pdf>.

Characteristic Waste: Hazardous waste that is corrosive waste, ignitable waste, leachate toxic waste, or reactive waste.

Debris: Solid waste that has a particle size of more than 60 millimetres, and includes material that remains with debris when simple mechanical means or simple physical means are used to separate material that is debris from material that is not debris.

Debris Mixture: A mixture of debris and other material where, based on visual inspection, the volume of the mixture is made up primarily of debris.

***De-characterized Waste:** Treated characteristic waste that no longer exhibits the characteristics of a corrosive waste, ignitable waste, leachate toxic waste, or reactive waste.

Director: The Director of the Waste Management Policy Branch of the Ministry (*Ministry of the Environment*) and includes an alternate named by him or her (*the Director*).

***Director's Letter of Equivalent Treatment:** A written approval that can be used solely to authorize a variance to the technology-based land disposal treatment requirements, based on a determination of equivalent treatment.

Empty Container: A container from which all wastes and other materials have been removed, using the removal practices such as pumping or pouring commonly used for the specific materials, which contains less than 2.5 centimetres of material on the bottom of the container.

***EPA:** Refers to the *Environmental Protection Act*, R.S.O. 1990, c. E. 19.

Generator: The operator of a waste generation facility. *This includes the original generator of the waste, as well as all subsequent generators that are involved in the chain of custody of the waste, such as a transfer station that receives waste and then ships it to another receiver. When the waste moves from the transfer station to another receiver, the transfer station is considered to be the generator for the subsequent shipment from its facility.*

***Generator Registration Document:** The information about waste generated at a waste generation facility that is posted on the Ministry's website.

***Generator Registration Fee:** Fee associated with the initial or annual GRR that consists of the following three components: the base fee, the manifest component and the tonnage component.

***Generator Registration Report (GRR):** The information provided to the Ministry on initial registration and every year after by the waste generator, either electronically or on paper, about the wastes generated at the waste generation facility.

Hazardous Waste: Hazardous waste is defined in Section 1 of Regulation 347. *The definition includes wastes that are characteristic waste, listed waste, pathological waste, PCB waste or radioactive waste. The definition also provides specific exclusions.*

***Hazardous Waste Number:** A four-character code (a letter followed by three numbers) used to identify individual listed wastes in Column 1 of Schedule 1, Part A and Part B of Schedule 2 and Schedule 3 of Regulation 347 and individual characteristic wastes in Column 1 of Schedule 5 of Regulation 347. These numbers are consistent with the United States Environmental Protection Agency's (USEPA) hazardous waste numbers. The Ministry assigned a hazardous waste number to the listed waste or characteristic waste if there was no USEPA hazardous waste number already available (see the E-series wastes in Schedule 5).

***HWIN List of Recycling Facilities:** The list of recycling facilities on the HWIN website (see <https://www.hwin.ca/hwin/oda/recyclers.jsp>). The processing of waste at these facilities to recover material for beneficial reuse does not meet the requirements of subsection 3 (2) of Regulation 347 for a recyclable material exemption. These facilities must have a Part V C of A (or equivalent in another jurisdiction) to process waste, and wastes sent to these facilities must be registered and manifested. However, the tonnage component of the generator registration fee is waived for shipments to facilities on the HWIN List of Recycling Facilities.

***Lab Pack:** An overpack container, usually a steel or fibre drum, that generally contains small quantities of chemicals, and where each waste is individually packaged and packed together into a common container.

Land Disposal: The deposit or disposal of waste upon, into, in or through land, including, the deposit of the waste at a dump, the landfilling of the waste, the discharge of the waste into a geological formation by means of a well and the landfarming of the waste, in the case of a petroleum refining waste, and land disposed has a corresponding meaning.

***Land Disposal Restrictions (LDR):** The requirements of Sections 74 through 85 of Regulation 347, which prohibit the disposal of hazardous wastes that are listed wastes or characteristic wastes until they have been treated to meet the land disposal treatment requirements.

***Land Disposal Treatment Requirements:** Identified in Schedule 1, Part A and Part B of Schedule 2 and Schedule 3 of Regulation 347 for listed wastes and in Schedule 5 of Regulation 347 for characteristic wastes. Land disposal treatment requirements are specified as either concentration-based numerical levels or as specified methods of treatment. Regulated constituents must be treated to meet the treatment requirements prior to land disposal.

***LDR Notification Form:** The LDR questionnaire in Part 2A of the GRR will indicate if Part 2B of the GRR needs to be completed for listed wastes or characteristic wastes. Part 2B is the LDR notification form and identifies the type of waste and treatment required or completed. Waste generators can use this form to meet their obligation to notify under the LDR program by providing it to the receiver of the waste.

Liquid Industrial Waste (LIW): LIW is defined in Section 1 of Regulation 347. *The regulatory definition provides specific exclusions.*

Listed Waste: Hazardous waste that is an acute hazardous waste chemical (*Part A of Schedule 2*), a hazardous industrial waste (*Schedule 1*), a hazardous waste chemical (*Part B of Schedule 2*), or a severely toxic waste (*Schedule 3*).

Manifest: A numbered document called a manifest that was obtained from the Ministry and includes a paper or electronic manifest (*e.g., that takes the form of a paper or electronic manifest*). *Manifests are required to ship subject waste off-site from a generator to a receiver.*

***Municipal Hazardous or Special Waste (MHSW) (formerly called Household Hazardous Waste (HHW)):** Domestic waste from a household that would be hazardous waste or LIW if it were produced by a commercial or industrial generator and waste from an industrial, commercial and institutional generator that, if it were produced in larger quantities, would meet the definition of hazardous waste or LIW. Examples of this type of waste include waste paints, solvents, used oils, batteries, items containing mercury, pharmaceutical wastes, unused cleaning products from homes, etc.

***Municipal Hazardous or Special Waste (MHSW) Depot:** A facility that accepts municipal hazardous or special waste from consumers. A MHSW depot has a valid C of A to accept MHSW, unless the facility is specifically exempt from this requirement. MHSW depots typically accept household wastes such as paints, solvents, used oils, batteries, mercury-containing items, etc. Some MHSW depots may also accept small quantities of waste from industrial, commercial and institutional (IC&I) waste generators.

Non-aqueous Waste: Waste that is not aqueous waste. *Concentration requirements for non-aqueous wastes are based on analysis of grab samples on a milligram per kilogram (mg/kg) basis.*

***North American Industry Classification System (NAICS) Code:** A six-digit industry classification numbering system that describes the nature of a business.

***On-site:** Management of waste at the location where the waste is generated. Waste may be processed or disposed of without leaving its point of generation. Specific provisions are included in Regulation 347 with respect to on-site waste management (see Section 17.1 and Section 17.2 of Regulation 347). Note: certain on-site disposal methods (e.g., landfill, landfarm or incineration) require a Part V C of A for a waste disposal site.

***Part 2B:** The LDR portion of the GRR, which must be completed by all generators of hazardous wastes that are listed wastes or characteristic wastes if the wastes are going to be land disposed. See also the definition of LDR notification form.

Receiver: The operator of any facility to which waste is transferred by a carrier. *This includes transfer stations, processing facilities and final disposal sites.*

***Recyclable Material:** Those wastes that meet the requirements of subsection 3 (2) of Regulation 347. Recyclable waste materials are exempt from Part V of the EPA and Regulation 347, and are not wastes that are sent to a facility on the HWIN List of Recycling Facilities.

***Regulated Constituents:** Any generic name or other description listed in the regulated constituent column in Schedule 1, Part A and Part B of Schedule 2 and Schedules 3, 5 and 6 of Regulation 347. All regulated constituents in a listed waste or characteristic waste must meet the treatment requirements before land disposal.

***Regulation 347:** Refers to Regulation 347 of the Revised Regulations of Ontario, 1990 (General – Waste Management) made under the EPA.

***Remediation Waste:** Waste generated during the clean up of contaminated sites. Such wastes are not generated during the course of normal industrial or manufacturing operations, but rather are the result of spills of hazardous waste, or product chemicals, or through historical management practices.

Section 39 Director: A Director appointed by *the Minister* under Section 5 of the *EPA* for the purposes of Section 39 of the Act, *allowing the Director to issue a Certificate of Approval.*

Site: A site means one property and includes nearby properties owned or leased by the same person where passage from one property to another involves crossing, but not travelling along, a public highway.

***Small Quantity Exemption (SQE):** An exemption provided for some waste types under the definitions of hazardous waste and LIW. The exempted quantities vary, and depend on the specific waste characterization. Accordingly, this exemption cannot be determined until the waste has been evaluated and the waste characterization established. Although the SQE quantities of waste are exempt from generator registration and manifesting requirements, the small quantity is still waste, and must be transported by an approved waste carrier and disposed of at an approved waste receiver.

***Small Quantity Generator (SQG):** An operator of a waste generation facility that produces a total of less than 100 kg of hazardous waste chemicals, hazardous industrial wastes, plus characteristic wastes, in any given month. Section 80 of Regulation 347 outlines special provisions for small quantity waste generators with respect to LDR requirements and the conditions that must be met.

***Soil:** In this manual soil is unconsolidated earth material composing the superficial geologic strata (material overlying bedrock) consisting of clay, silt, sand or gravel size particles.

Soil Mixture: Includes a mixture of soil and liquids, sludges or solids, where, (a) the mixture cannot be separated by simple mechanical removal processes; and (b) based on visual inspection, the volume of the mixture is made up primarily of soil or other finely divided material that is similar to soil.

***Specific Gravity:** The ratio of the weight or mass of a given volume of substance to that of an equal volume of another substance (water for liquids and solids).

Subject Waste: A term defined in Section 1 of Regulation 347. *Subject waste means hazardous waste and LIW, as well as waste that was characteristic waste but that has been treated so that it is no longer characteristic waste if the waste may not be disposed of by land disposal under subsection 79 (1). However, the definition of “subject waste” does not include a number of wastes, including intact waste batteries that are destined for a waste battery recovery facility and waste from the professional office of a member of the Royal College of Dental Surgeons of Ontario. See subsection 1 (3) of Regulation 347 for a complete list. The term is used in a number of sections of Regulation 347, such as the generator registration and manifesting sections.*

Thermal Treatment: Includes incineration, gasification, pyrolysis or plasma arc treatment. *Thermal treatment is not considered processing.*

Toxicity Characteristic Leaching Procedure (TCLP): This term is defined in Section 1 of Regulation 347. *This procedure is an analytical test method that is used to identify whether a waste exhibits the characteristic of leachate toxicity, and to measure compliance with treatment standards.*

***Underlying Hazardous Constituent (UHC):** A regulated constituent of a characteristic waste identified in Schedule 6 of Regulation 347, which, if present, must be treated to meet land disposal treatment requirements, but nonetheless does not cause the waste to exhibit a hazardous waste characteristic.

***Waste Characterization (formerly referred to as Waste Characteristic):** Identified by a single letter that indicates the type of hazardous waste or LIW it contains, based on the chemical characteristics or source of a waste material. The waste characterization identifies the hazard associated with the waste. A waste may have more than one waste characterization.

***Waste Class:** A three-digit number assigned to a generic waste description used to classify the type of waste being managed. Waste classes are included in the C of A for waste carriers and receivers, to identify the waste streams that they are permitted to handle or manage. A list of Ontario waste classes can be found in Appendix B of this manual.

Waste Generation Facility: Those facilities, equipment, and operations that are involved in the production, collection, handling or storage of waste at a site.

***Waste Number:** The combination of the three-digit waste class and the single-letter primary waste characterization used to classify a waste stream for generator registration and manifesting purposes.

LIST OF ACRONYMS

ASTM	American Society for Testing and Materials
CAS #	Chemical Abstracts Service Registry Number
C of A	Certificate of Approval
CEPA	<i>Canadian Environmental Protection Act (Canada)</i>
EAA	<i>Environmental Assessment Act</i>
EPA	<i>Environmental Protection Act</i>
GRR	Generator Registration Report
HWIN	Hazardous Waste Information Network
IC&I	Industrial, Commercial and Institutional (Generators)
LDR	Land Disposal Restrictions
LIW	Liquid Industrial Waste
MHSW	Municipal Hazardous or Special Waste
MOE	Ministry of the Environment
NAICS	North American Industry Classification System
OWRA	<i>Ontario Water Resources Act</i>
PCB	Polychlorinated Biphenyls
S.	Section of Regulation 347
SQE	Small Quantity Exemption (Waste)
SQG	Small Quantity Generator
TCLP	Toxicity Characteristic Leaching Procedure
TDGA	<i>Transportation of Dangerous Goods Act (Canada)</i>
UHC	Underlying Hazardous Constituent
USEPA	United States Environmental Protection Agency
WDA	<i>Waste Diversion Act, 2002</i>
WEEE	Waste Electrical and Electronic Equipment

1 IMPORTANT CHANGES TO THE MANUAL FOR WASTE GENERATORS

Several changes have been made to this manual since the last update. The highlights of the changes are as follows:

- The manual updates the Ministry of the Environment's guidance on who needs to register. It also provides an overview of Ontario's hazardous waste management rules and the new requirements for generators, carriers and receivers of subject waste.
- The former term, "waste characteristic," has been changed to "waste characterization." This change in terminology updates and aligns Ontario's terminology with that used by the United States Environmental Protection Agency (USEPA).
- The manual now includes the amendments to Regulation 347 that put in place a land disposal restrictions (LDR) program. Under these rules, listed wastes and characteristic wastes that are to be land disposed must first be treated to meet specific land disposal treatment requirements. The updated manual describes how the LDR requirements affect the registration process, and provides information on the program, including reporting, notification, record-keeping, waste analysis and land disposal treatment requirements for hazardous waste. For more detailed information on the LDR program, please also consult the Land Disposal Restrictions (LDR) Handbook (handbook) on the Ministry's website at <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.
- This manual has been revised to include new flow charts that are designed to help generators determine whether they need to register. As well, the updated manual includes a section that explains Ontario's LDR requirements, and how to determine if they apply to a generator's waste stream.
- Regulation 347 contains a number of descriptive schedules that list various hazardous wastes. These schedules have been updated to reflect the recent changes that relate to the province's LDR program. The updated lists in the schedules now contain not only the hazardous waste number and waste description, but also the regulated constituents and their corresponding LDR treatment standards.
- The manual also identifies the new requirements for on-site processing of wastes that are subject to the LDR rules. For example, the LDR program includes additional treatment, notification and record-keeping requirements for wastes that are processed on-site. It also requires generators to register subject wastes which are no longer hazardous, but which need further treatment to meet the land disposal treatment requirements.
- Ontario's new LDR program is being phased in, and the updated manual provides the phase-in schedule for the new requirements in detail. The phase-in schedule is as follows:
 - Storage, mixing and on-site processing approval requirements began March 31, 2006
 - New generator registration requirements began January 1, 2007
 - The phase-in period for the land disposal treatment requirements is from August 31, 2007 to December 31, 2009.

- The updated manual also explains a number of other regulatory amendments to Regulation 347 that are designed to improve the management of subject wastes. The requirements outlined below may apply not only to generators that are subject to LDR requirements, but also to all waste generation facilities that are used primarily for activities other than waste management. This will depend on the type of wastes generated (non-hazardous and hazardous) and the waste activities conducted on-site.
 - Mixing, blending and bulking of wastes
 - To improve the management of wastes, Regulation 347 now prohibits the mixing of hazardous wastes with other wastes or materials for purposes other than processing. This new provision may affect hazardous waste generators, carriers and receivers, unless this activity is authorized by a certificate of approval (C of A) issued under Part V of the *Environmental Protection Act* (EPA). The provision also ensures that dilution cannot be used to avoid meeting the new LDR treatment standards.
 - On-site storage of subject wastes
 - The regulation now contains notification, management, and record-keeping requirements for wastes that are stored on-site at a waste generation facility for more than 90 days.
 - A Certificate of Approval is required for wastes stored on-site for more than two years.
 - On-site processing of wastes
 - The regulation describes when approvals are required and when approvals are not required when generators are processing wastes on-site. These regulatory changes do not introduce new requirements, but rather clarify existing practices to ensure consistency with respect to on-site processing.
- The revised manual clarifies current practices to improve waste management and to ensure greater consistency across the province.
- The manual has also been improved by including the following items:
 - The Hazardous Waste Information Network (HWIN) List of Recycling Facilities – an explanation of this list, how it works and how a company becomes listed
 - A discussion on how to determine the appropriate waste classes for generator waste streams
 - Information about on-line registration through HWIN
 - A discussion on manifesting.
- The revised, expanded manual now contains additional information on waste management practices in Ontario.
- The manual has also been updated to include additional amendments to Regulation 347 that were made since the last revision, including:
 - The enhancement of the corrosive waste definition to include solids, except for solid incinerator ash or fly-ash from a woodwaste combustor site, and solid wastes (e.g., grits, dregs, lime wastes) generated by a manufacturer of pulp, paper, recycled paper, corrugated cardboard or other paper products.
 - The inclusion of sewage works outside Ontario as part of the exemption of pickle liquor as a treatment chemical from Part V of the EPA (i.e., when used as a recyclable material).

- An amendment to facilitate waste recycling, the use of alternative fuels and new or emerging waste technologies through streamlined approvals processes.
 - An amendment to facilitate the proper management of wastes from field operations. Field operations include activities or services that are performed by companies or the public sector as part of their regular duties at remote sites and from equipment servicing and construction, spill clean-up and mobile health care. In general, wastes generated from a field operation can be transported to a local waste transfer site without a C of A. Generator registration at the field site and manifesting from the site are also not required.
- Appendix G of the manual includes questions and answers about the new requirements for generator registration.
 - To simplify the electronic use of this manual, hyperlinks have been included in the updated format.

2 INTRODUCTION

Ontario has a comprehensive legislative and regulatory framework in place to ensure that hazardous waste and liquid industrial waste (LIW) are managed in an environmentally safe manner. This framework — consisting of the EPA and regulations under the EPA, including Regulation 347 — provides the Ministry of the Environment (MOE) with the authority to regulate and enforce the management of hazardous waste and LIW throughout the province.

Regulation 347 defines hazardous waste through a listing and testing approach that is similar to the one used by the USEPA. Generators of subject wastes are required to register by submitting a generator registration report (GRR) every year between January 1 and February 15 and to pay an associated generator registration fee. Information about the generator registration fee is provided in 4.1 of this manual. The generator registration process provides MOE with information that enables it to develop computerized waste profiles that promote effective waste monitoring and control.

This manual has been prepared to help waste generators comply with the generator registration requirements of Regulation 347. Under this regulation, waste generators are required to evaluate their wastes and, if the wastes are determined to be a subject waste, to submit a GRR to the MOE. Under Ontario law, it is a provincial offence to store, process, dispose or transport hazardous waste or LIW unless a generator registration document for the generator has been posted on the HWIN. HWIN can be accessed through the Ministry's website at www.ene.gov.on.ca.

Out-of-province waste generators who transport or dispose of liquid industrial or hazardous wastes in Ontario must also register their wastes with MOE. Carriers or receivers are not permitted to accept these wastes from any out-of-province generator for whom a generator registration document has not been posted on HWIN.

In 2005, amendments to Regulation 347 implemented Ontario's LDR program for hazardous wastes. The LDR program affects hazardous waste generators and the waste management industry that treats and processes all hazardous wastes that are to be land disposed. The amendments to the regulation require hazardous wastes to be treated before being land disposed in Ontario. The LDR program and associated regulatory amendments were phased in, with the first changes taking effect March 31, 2006, revised reporting requirements for hazardous waste generators becoming effective on January 1, 2007, and the first treatment standards taking effect on August 31, 2007. All remaining LDR requirements are effective on December 31, 2009.

The registration of subject wastes takes place in two steps:

Step 1: Determine whether or not you need to register your waste. The manual provides a flowchart with explanations to help you determine whether or not you need to register your waste. After using the flowchart, you may determine that your wastes are not subject to the registration requirements of Regulation 347, and you do not need to take any further action. However, if you determine that your wastes are subject to the regulation's registration requirements, you are required by law to register your site and each of the wastes in it with the Ministry.

Step 2: Complete and submit the annual Generator Registration Report (GRR). To help you complete and submit these reports, the manual explains each line of the report and the information that must be entered. Generators can complete and submit the registration either electronically, on the Internet, or on paper. Electronic registration is handled through the HWIN site (www.hwin.ca). MOE's

Hazardous Waste Rules and Regulations page

(<http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>) contains a blank GRR, which you can copy and use for registration.

Please note that you must submit your annual Generator Registration Fee along with your GRR. The Ministry may review the report after you have filed it.

Please also note that this manual should be used in conjunction with Regulation 347 as certain provisions of the regulation require compliance with the manual. The following provisions of Regulation 347 require compliance with or refer to the manual:

- Subsections 18 (2) and (7.2)
- Subsection 19 (1)
- Subsection 21 (1)
- Subsections 23 (2), (2.1), (3), and (5)
- Subsections 24 (4) and (4.1)
- Subsection 25 (7)
- Subsections 80 (2) and (3).

The manual has also been prepared to help you interpret and comply with the requirements of the regulation. And although some sections of the manual are referenced in Regulation 347, you should always refer to the Regulation itself for exact legal requirements, wording and interpretation. You should also use the handbook in conjunction with this manual, to better understand the responsibilities and regulatory requirements for hazardous waste generators, processors, transporters and receivers under the LDR program.

3 GENERATOR REGISTRATION PROCESS

3.1 How to Determine if Registration is Required

Waste generators need to determine if the wastes they produce or accumulate are subject to Ontario's registration requirements. This section of the manual provides a systematic approach to reaching this determination, using detailed flowcharts and explanations. It also explains how to determine the waste characterizations and corresponding waste class that must be entered on the GRR for each waste stream.

3.1.1 Who is a Generator?

Regulation 347 defines a generator as the operator of a waste generation facility. A waste generation facility is defined to mean facilities, equipment and operations that are involved in the production, collection, handling and storage of waste at a site. The definition of generator would include operators of commercial and manufacturing facilities that produce wastes, as well as operators of waste disposal, transfer, bulking or processing facilities that forward materials off-site for subsequent waste management.

A receiver of subject waste (such as a transfer station or processing facility) becomes a waste generator by managing the waste, and is, therefore, subject to the generator registration requirements that are outlined in this section. Receivers of non-subject waste may also become waste generators by managing the waste that they receive. For example, municipal hazardous or special waste (MHSW) depots receive waste that is not subject waste from domestic sources, and later ship the collected waste for disposal. As a result, MHSW depots are subject to the province's generator registration requirements. These facilities must therefore characterize the waste they collect, and ensure that any waste that is either hazardous waste or LIW is appropriately managed.

3.1.2 What is a Waste?

Wastes are defined in the EPA, and Regulation 347 also designates specific wastes. Waste includes all materials that are normally considered waste — such as ashes, garbage, domestic waste, industrial waste, commercial waste, construction debris and residues from industrial and commercial activities. Economic value is not a reliable indicator of whether or not a material is a waste. For example, while some waste materials are sold for their heating value, or otherwise reused, recycled, recovered or reclaimed — they are still wastes under Ontario law, and must be managed appropriately.

All outputs from waste transfer, bulking, or processing facilities are considered to be wastes. Such outputs include oil that is recovered from oily water treatment facilities, and blended or bulked waste solvents that are destined either for disposal or recycling. Commercial waste chemicals that either are or contain a commercial chemical product or by-product, including those that are off-specification or that have exceeded their expiry date, are also considered to be wastes.

By contrast, by-products or intermediates from a series of traditional metal refining operations, such as mineral or metal recovery, are not considered to be wastes. For example, sludges from an electrolytic recovery process for metals, such as nickel, which are later processed to remove precious metals such as silver, are not considered to be wastes.

Section 2 of Regulation 347 designates a number of materials as waste. Section 3 of Regulation 347 sets out a number of requirements that, when met, exempt certain wastes from the requirements of Part V of the EPA and Regulation 347. However, **these materials are still wastes**, and must be managed with care.

To ensure that your hazardous waste and LIW are being managed appropriately, you should therefore familiarize yourself with the EPA and Regulation 347 in particular, along with the amendments that implement the Land Disposal Restriction requirements.

3.1.3 Determining When Waste is Generated

To determine when a waste has been generated, generators need to consider the point at which their process ends. In the case of listed wastes, determining when a waste has been generated can usually be accomplished by following the descriptions of wastes provided in the detailed schedules of Regulation 347. All wastes that meet the descriptions in these schedules are considered to have been generated, and must therefore be handled as hazardous wastes. In the case of wastes that are not listed in the schedules, the waste is considered to have been generated after the process is completed — for example, at the end of a manufacturing process, or at the last stage of any process that generates the waste. Once the process has been completed and the wastes have been collected, the generator must classify them properly according to the regulation.

When a material may be a subject waste, but is still in use or in equipment that, by its nature, is designed to capture and hold material until the equipment is serviced, the material is not yet considered to be a subject waste. The material is only a subject waste when the generator removes it from the equipment — for example, when waste oil is collected during the servicing of equipment, or when dust is removed from vacuum equipment or a baghouse.

Regulation 347 requires generators to keep each waste stream separate and to characterize it individually before determining whether or not the wastes can be mixed. For example, if a manufacturing process has three waste streams that exit the system from three different pipes, each of the three waste streams must be characterized to identify whether it is hazardous, and to determine if Ontario's land disposal restriction (LDR) requirements apply. This must be done before the generator can determine if any of the three waste streams may be mixed or combined into a single collection vessel. Determining whether the LDR requirements apply must occur at the point of generation, to prevent the waste from being diluted and thus avoiding proper treatment.

A generated waste may be characterized as either a hazardous waste or LIW. The characterization depends on the various definitions for hazardous waste and LIW in Regulation 347, and the small quantity exemptions provided for each type of waste. Most wastes become either hazardous waste or LIW when the generator accumulates them in an amount that is equal to or greater than the small quantity exemption (SQE) amount for the waste. Section 5.5 of the manual provides detailed information about SQE for each type of hazardous waste and LIW.

Depending on the types of wastes generated at a facility, Regulation 347 may restrict generators from mixing and processing them. This is particularly important with wastes that are required to meet the province's land disposal treatment requirements. Restrictions on mixing of waste with other wastes or materials are discussed in 6.1 of the manual.

3.1.4 What is a Hazardous Waste?

Hazardous wastes are wastes that, when present in quantities and concentrations that are high enough, pose a threat to human health or the environment if they are improperly stored, transported, treated or disposed. Accordingly, hazardous wastes require special handling and management. To manage hazardous wastes appropriately, there must be systematic control of how they are collected, stored, transported, treated, recovered and disposed.

Improper management or disposal of hazardous wastes can have a direct or indirect impact on many aspects of the environment, human health and the economy. For example, improper waste disposal practices or leachate from landfills that are not designed to accept these wastes may contaminate ground water and surface water.

While Ontario's industrial and manufacturing sectors generate most hazardous wastes, the commercial and institutional sectors, as well as individual households, also generate significant quantities of hazardous waste. Most of the hazardous wastes covered by Regulation 347 are identified through a listing and testing approach.

Hazardous wastes include:

- Listed wastes:
 - Listed wastes include specific waste streams and wastes from industrial processes, waste chemicals and severely toxic wastes. A listed waste is defined in Regulation 347 as a hazardous waste that is (a) an acute hazardous waste chemical (Part A of Schedule 2), (b) a hazardous industrial waste (Schedule 1), (c) a hazardous waste chemical (Part B of Schedule 2), or (d) severely toxic waste (Schedule 3). These schedules of Regulation 347 identify the listed wastes and their associated treatment requirements.
- Characteristic wastes:
 - Characteristic wastes are identified through testing. Characteristic waste is defined in Regulation 347 as hazardous waste that is (a) corrosive waste, (b) ignitable waste, (c) leachate toxic waste, or (d) reactive waste. Schedule 5 of Regulation 347 identifies the characteristic wastes and their associated treatment requirements.
- Pathological wastes:
 - Pathological wastes include human and animal remains and other non-anatomical waste that is infected with a communicable disease. Pathological wastes are included in the biomedical waste definition in Guideline C-4, which provides best management practices to generators, carriers and receivers of biomedical waste and is available at <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.
- PCB wastes:
 - PCB waste has the same meaning as in Regulation 362 and includes PCB equipment, PCB liquid or PCB material.
- Radioactive wastes:
 - Radioactive waste — except radioisotope wastes that are produced as part of the nuclear fuel cycle and are disposed of in a landfill site in accordance with the written instructions of the Canadian Nuclear Safety Commission, formerly the Atomic Energy Control Board — is considered to be hazardous waste. The Ministry of the Environment regulates radioactive waste

that contains naturally occurring radioactive material on a case-by-case basis. Generators of radioactive waste should contact the Ministry for further information on the appropriate management of waste that contains naturally occurring radioactive material (NORM).

3.1.4.1 What are the mixture and derived-from rules for hazardous waste?

The mixture and derived-from rules apply to listed wastes, pathological wastes and radioactive wastes.

The Mixture Rule — The mixture rule states that a listed waste, pathological waste or radioactive waste that is mixed with any other waste or material retains its waste characterization, even if it is processed at an approved facility, unless the C of A for the facility specifically states otherwise. For example, if a hazardous industrial waste listed in Schedule 1 of Regulation 347 (i.e., a listed waste) is mixed with a non-hazardous waste, the mixture is considered to be a listed waste, and must be managed accordingly. The mixture rule is designed to provide an incentive for generators to segregate different waste types, while helping to prevent the dilution of a specified hazardous waste to alter its primary characterization.

The Derived-from Rule — Under the derived-from rule, a waste is considered to be derived from a listed waste, pathological waste or radioactive waste if the waste is blended, stabilized, processed or disposed. A waste that is subject to the derived-from rule therefore retains its hazardous waste characterization even if it is processed at an approved facility, unless the C of A for the facility specifically states that the resulting waste no longer retains the original hazardous waste characterization. For example, a listed waste (e.g., a Schedule 1 hazardous industrial waste) that has been processed to reduce its toxicity and any residual from the processing are both considered to be listed wastes after they have been treated, and must be disposed of at an approved hazardous waste facility.

The intent of the mixture and derived-from rules is to prevent the mixing or processing of a waste so that it no longer meets the original definition of hazardous waste, without addressing its hazardous constituents. Any waste that is mixed with one of these hazardous wastes retains its waste classification, and must continue to be managed appropriately as a hazardous waste. Please note, however, that the mixture and derived-from rules do not apply to PCB waste or characteristic waste.

Regulation 347 also contains provisions for waste generators, carriers and receivers that specifically prevent the mixing, blending, bulking or intermingling of hazardous wastes with any other wastes or materials. These activities are permitted only under certain conditions, or if they are authorized by the conditions of a C of A. In general, hazardous wastes that are not similar in nature (e.g., solids and liquids) and that do not have the same waste number (i.e., the same waste class and waste characterization) cannot be mixed. Section 6.1 of this manual discusses the limitations on mixing that apply to all hazardous wastes in more detail.

The details of these provisions, as they relate to activities that take place at the waste generation site, are presented in 6.1.3.1 of this manual. The provisions identify the conditions under which mixing, blending, bulking or intermingling of hazardous wastes is permitted at the waste generator's facility. The restrictions are most stringent for wastes that are subject to the LDR requirements. There are also specific provisions for carriers and receivers (see 6.1.4 of the manual). Please note that these restrictions apply only to hazardous wastes, and that Regulation 347 does not prevent the mixing, blending, bulking or intermingling of LIW with similar wastes.

Generators should also note that Regulation 347 contains provisions that exclude some wastes from the derived-from rule. These provisions include exemptions specified in the regulation (in Schedules 1.1, 2.1, and 2.2 of Regulation 347), through the formal de-listing process, or through a C of A.

3.1.4.2 How to de-list a hazardous listed waste

A generator or receiver can submit an application to the Ministry to de-list or review the status of a listed waste. Most wastes from specific sources are listed because of the toxicity of the waste's constituents. However, a listed waste may no longer exhibit hazardous characteristics if a facility uses or processes raw materials differently from the industrial processes that were considered when the listing was developed. These exclusions may be approved if the waste does not have characteristics that are similar to the characteristics of the waste from which it was derived.

An application to de-list a hazardous waste that is a listed waste must include the results of comprehensive testing and analysis to demonstrate that the waste does not meet any of the criteria for which it was originally listed, or exhibit other hazardous properties or hazardous constituents at significant levels. De-listing applications are subject to a technical evaluation by the Ministry as well as public consultation. It should be emphasized here that this type of review pertains only to a specific waste from a specific facility. Further details on de-listing can be found in Guideline C-16-1 "Guidance Manual for Hazardous Waste Categorization and Review, Volume B, Guidance Manual for the Review of Wastes Listed in Regulation 347," which is available in the Publications section of the Ministry's website at www.ene.gov.on.ca. This guideline also covers the listing process for hazardous wastes.

In certain cases, listed wastes that have been treated may be disposed of in a non-hazardous waste facility, provided that a C of A has been issued stating that in the opinion of the Section 39 Director (i.e., for approvals purposes), the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the hazardous waste from which it was derived and provided that the treated waste is also not a characteristic waste. In such cases, the treated listed waste is no longer considered to be a listed waste, since the Section 39 Director has determined that the derived-from rule does not apply. The determination that a waste is no longer a listed waste is based on the same principles used to de-list a hazardous waste through the regulatory de-listing process.

Listed wastes and characteristic wastes may be subject to the land disposal restrictions. Further information on the LDR program is provided in 5 of this manual.

3.1.5 What is a Liquid Industrial Waste (LIW)?

LIW are wastes from industrial or commercial sources that are liquid waste, but not hazardous waste. For registration purposes, the criterion for determining whether a waste is liquid is the slump test, which is set out in Schedule 9 of Regulation 347 (see also Appendix A of this manual).

While LIW must be registered with the MOE, they are not subject to the same level of regulation as hazardous wastes. For example, the mixture and derived-from rules do not apply to LIW. Moreover, while LIW must be managed at an approved facility, they are not subject to land disposal restrictions. Please see 3.2.1 of this manual for information about exemptions from the definition of LIW.

3.1.6 Special Cases

Remediation Waste

Industrial sites may become contaminated through spills of hazardous waste or product chemicals, or through historical management practices. Wastes that are generated when such sites are being decontaminated are called remediation wastes.

In general, the strict application of the mixture and derived-from rules is not appropriate for remediation wastes. Typically, the remediation waste generated at contaminated sites is in the form of large quantities of soil or a soil mixture that contain relatively low concentrations of chemicals. Moreover, it is often difficult to determine if a listed waste has contaminated a soil or a soil mixture, because remediation waste is often the product of the historical activities carried out at a facility. Strictly applying the mixture and derived-from rules to a soil or a soil mixture at contaminated sites could result in many tonnes of a soil or a soil mixture being classified as hazardous waste, despite the fact that these wastes generally have low concentrations of chemicals and pose little real threat to health or the environment. In addition, managing a soil or a soil mixture as a listed waste would also act as a significant disincentive to site remediation. For these reasons, a soil or a soil mixture or a debris or a debris mixture generated during remediation activities is normally identified as hazardous waste only if it exhibits a hazardous waste characterization other than the listed waste characterizations.

This approach does not apply, however, to a soil or a soil mixture that is known to have been contaminated by a listed waste due to an immediate spill or other activity. In such cases, the resulting waste must always be managed at a hazardous waste facility, since the derived-from rule applies.

Contaminated soils can present health or environmental risks if they are not properly handled and disposed of, and remediation wastes must be characterized to determine if they exhibit any characteristics of hazardous waste. If a remediation waste is determined to be hazardous, it is subject to the requirements of Regulation 347, including the requirements of the LDR program.

The LDR provisions in Regulation 347 do not apply to contaminated soils during the course of on-site remediation activities. However, the LDR requirements do apply to a soil or a soil mixture when it is managed as a waste, including on-site or off-site land disposal of the waste. For information on the land disposal treatment requirements for a soil or a soil mixture that is a listed waste or characteristic waste, please see 5.7.1 of this manual.

Waste that is Debris

A debris or a debris mixture can include glass, metal, plastic, brick, concrete, wood and other, similar materials that are produced during site remediation or building demolition. A debris or a debris mixture that is considered to be hazardous waste may be contaminated with either a listed waste or a characteristic waste. As with remediation waste, if a debris or a debris mixture is known to have been contaminated by a listed waste, it must be managed in accordance with the rules for the listed waste with which it is contaminated. However, where the source of contamination is due to historical practices at a site, and a debris or a debris mixture is not known to have been contaminated by a listed waste, the debris or debris mixture is only considered to be hazardous if it exhibits a hazardous waste characterization other than the listed waste characterizations.

If a debris or a debris mixture is a listed waste or a characteristic waste and is being land disposed, it is subject to LDR requirements and must be treated to meet the treatment standards. For more information on the treatment standards for a debris or a debris mixture that is a hazardous waste see 5.7.2 of this manual.

3.1.7 What is a Subject Waste?

Subject waste is a term used to identify the types of wastes that must be registered with the ministry. The movement of these wastes must be tracked through HWIN. Carriers and receivers of subject wastes must meet the requirements of Part V of the EPA, as well as Regulation 347.

Subject waste means hazardous waste, LIW and waste that was characteristic but that has been treated so that it is no longer characteristic waste, if the waste may not be disposed of by land disposal under subsection 79 (1).

Wastes that may be subject wastes on or after December 31, 2009 are wastes that have been de-characterized so that they no longer exhibit the characteristics of a corrosive waste, ignitable waste, leachate toxic waste, or reactive waste. But these wastes cannot be land disposed because they need further treatment to meet the land disposal treatment requirements for additional regulated constituents that are listed in Schedule 6 of Regulation 347.

As a result, on or after December 31, 2009, de-characterized wastes that have other regulated constituents at concentrations that are at or above the treatment requirements in Schedule 6 and cannot be land disposed, remain a subject waste, and the generator is required to register it. De-characterized wastes that do not have other regulated constituents, or that have regulated constituents at concentrations that meet the treatment requirements and can therefore be land disposed, are not considered to be subject wastes. As a result, the generator is not required to register these wastes.

Some specific wastes are exempted from the definition of subject waste and are therefore exempt from the registration and manifesting requirements that apply to other hazardous wastes and LIWs. The exemptions to the definition of subject waste are discussed in the next section of the manual.

3.2 Exemptions

3.2.1 Exemptions available through Definitions, Section 1 of Regulation 347

Regulation 347 contains a number of provisions that exempt certain waste streams from the definitions of hazardous waste, LIW, or subject waste (see Section 1 of Regulation 347 for definitions), or from the sections of the regulation that apply to generator registration and manifesting. Exempted wastes do not have to be registered or manifested. However, while these exempted wastes are not subject to registration and manifesting, they must be managed appropriately, and transported and disposed of by approved carriers and receivers (i.e., companies and facilities that are approved for the type of waste being carried or received). Please note that for hazardous waste and LIW exclusions, the wastes must generally be characterized before it can be determined whether or not they are exempt from registration.

3.2.1.1 Hazardous Waste and Liquid Industrial Waste Definitions

The definitions of hazardous waste and LIW in Section 1 of Regulation 347 specify that certain wastes are excluded from these definitions. While such materials are still considered to be wastes, the requirements for registration and manifesting do not apply. In some cases, other regulatory requirements must be met in order for a waste to be excluded from a definition.

(a) *Hauled Sewage*

Hauled sewage, generically referred to as septage, is exempt from the definitions of LIW and hazardous waste. Hauled sewage (also known as septage) refers to waste from portable toilets, holding tanks, septic and aerobic systems that are regulated under Part 8 of the Ontario Building Code (OBC). This exemption applies to waste suitable for storage, treatment or disposal in a sewage system regulated under Part 8 that is not disposed of at the site where it is produced. However, the exemption does not include waste from a sewage works approved under Section 53 of the *Ontario Water Resources Act* (OWRA), where the waste is transferred by a sewer, or waste from a vehicle's holding tank. Septage haulers are exempt from registration with the Ministry. However, they must obtain a waste management system C of A for the purposes of transporting the waste. The land application of septage requires a waste disposal site C of A. However, as of January 1, 2011, treated septage may also be land-applied under a Non-Agricultural Source Materials (NASM) Plan approved by the Ministry of Agriculture, Food and Rural Affairs and issued under the *Nutrient Management Act's, 2002, General Nutrient Management Regulation*.

(b) *Sewage Sludge*

Wastes from municipally owned sewage works, Crown-owned sewage works or sewage works owned by the Ontario Clean Water Agency (OCWA) under an agreement with a municipality and approved under the OWRA, are also exempt from the definitions of LIW and hazardous waste. Wastes from privately owned sewage works that only receive wastes that are similar in character to domestic sewage, not including industrial sewage, are also exempt. Sewage sludge refers to raw, untreated municipal wastewater solids. Treated sewage sludge is referred to as sewage biosolids, which are nutrient-rich organic materials. Haulers of sewage biosolids are exempt from registration, but must obtain a waste management system C of A for the purposes of transportation. The land application of sewage biosolids currently requires an organic soil conditioning site C of A. However, as of January 1, 2011, no new organic soil conditioning Certificates of Approval will be issued for sewage biosolids that are to be applied on agricultural land. After this date, the material must be land-applied under a NASM Plan approved by the Ministry of Agriculture, Food and Rural Affairs and issued under the *Nutrient Management Act's, 2002, General Nutrient Management Regulation*.

(c) *Domestic Wastes*

Household wastes are exempt from the definitions of LIW and hazardous waste. Once a household waste is collected at a MHSW depot, however, the exemption no longer applies if it is characterized as a hazardous waste or LIW, and the waste becomes subject to generator registration and manifesting requirements. This exemption applies only to domestic waste from households, and does not include waste from institutions, hotels, motels, etc.

(d) *Incinerator Ash*

Incinerator ash (bottom ash) resulting from the incineration of waste that is neither hazardous waste nor LIW is exempt from the definition of hazardous waste. Incinerator ash does not include fly ash. Incinerator ash is defined as ash residue that contains less than 10 per cent combustible material by weight.

(e) *Small Quantities Exemption (SQE)*

The regulation provides exemptions for some types of SQE waste under the definitions of LIW and hazardous waste. The exempted quantities vary, depending on the characterization of the specific waste. As a result, the exemption cannot be confirmed until the waste has been evaluated and the primary waste characterization established. Small quantity exemptions are discussed below under the explanations dealing with each waste characterization (explanations 1-9, 11, 12). Although small quantities of a waste may be considered non-hazardous, and thus exempt from generator registration and manifesting requirements, the small quantity is still considered to be waste, and must be transported by an appropriately approved waste carrier and disposed of at an approved facility.

(f) *Empty Containers or Liners*

Depending on the characterization of the material they once contained, empty containers or inner liners may or may not be exempt from registration and manifesting under the definition of hazardous waste. As with SQE waste, the exemption for empty containers or liners cannot be determined until the waste has been evaluated, and the primary waste characterization has been established. Empty container and inner liner exemptions are discussed below under the explanations dealing with each hazardous characterization (explanations 1-9, 11).

Regulation 347 defines an “empty container” as a container from which wastes and other materials have been removed, using common removal practices such as pumping or pouring, and which contains less than 2.5 centimetres of material on the bottom of the container.

(g) *Exemptions that are Specific to LIW*

The following wastes are only exempt from the definition of LIW; they do not apply to hazardous wastes.

- i) Discharges to sanitary sewers
Wastes or wastewater discharged directly by a generator to a sanitary sewer (either municipally owned or privately owned) that is located at the waste generation site

Please note: The discharge to sanitary sewer exemption **does not** apply to hazardous wastes!

- ii) Waste that results directly from food processing and preparation operations (Food processing and preparation operations include food packing, food preserving, wine making, cheese making and restaurants.)
- iii) Waste from the operation of a water works subject to the *OWRA*
- iv) Drilling fluids and produced waters associated with the exploration, development or production of crude oil or natural gas
- v) Processed organic waste
(Processed organic waste includes waste that is predominantly organic in composition and has been treated by aerobic or anaerobic digestion, or another means of stabilization, and includes residue from sewage works that are subject to the provisions of *OWRA*.)
- vi) Asbestos waste.

3.2.1.2 Subject Waste Definition

The definition of subject waste in Section 1 of Regulation 347 specifies wastes that are excluded from the definition, which can be found in subsection 1 (3). Wastes that are excluded from the definition of subject waste do not require registration or manifesting with the Ministry but are still wastes that:

- i) may still meet the definitions of hazardous waste or LIW
- ii) must be managed or disposed of at an appropriately approved facility
- iii) when transported, must be shipped with an appropriately approved carrier.

Please note that some of the exclusions have specific requirements that must be met in order for the waste to be excluded from the definition.

(a) *Retail Motor Vehicle Service Station or Service Facility Wastes*

Wastes resulting from the servicing of motor vehicles at retail motor vehicle service stations or service facilities are excluded from the definition of subject waste.

Please note: This exemption is limited to retail motor vehicle service stations or service facilities that have a valid written agreement for the collection and management of their wastes from the servicing of motor vehicles with a waste management system that is approved under Part V of the EPA to haul the hazardous waste or LIW off-site.

A retail motor vehicle service station or servicing facility provides services to the public for any type of motor vehicle (e.g., public vehicle). Facilities that meet these requirements may include gasoline service stations, automotive repair garages, car washes and service centres at automobile dealerships, auto body shops that are open to the public, marinas that service boats for the public, and farm equipment dealers that perform retail servicing. Facilities used by organizations to service their own fleet vehicles — such as government, utilities, bus, transport, rent-a-car or heavy equipment companies — do not qualify for the exemption unless they provide retail services as the primary function of their business.

This exemption only applies to subject waste from the servicing of motor vehicles. Such wastes can include used lubricating oil, service station interceptor waste, water pump-out from underground storage tanks, waste batteries, waste antifreeze, liquid waste paints and waste solvents. However, please note that the exemption does not apply to wastes generated by activities that are not associated with the servicing of motor vehicles (e.g., site remediation waste).

A Ministry guideline entitled, “C-11-1 Procedures for the Handling and Disposal of Selected Wastes from Retail Motor Vehicle Servicing Facilities,” has been developed to address the appropriate management of these wastes. The guideline can be viewed on the Ministry’s website at <http://www.ene.gov.on.ca/envision/gp/C11-1.pdf>. The guideline provides further information about managing the wastes that are typically generated at these facilities and the details that must be included in the written agreement referred to above.

(b) *Waste from:*

- i) a nursing home as defined under the *Nursing Homes Act*
- ii) a home as defined under the *Homes for the Aged and Rest Homes Act*
- iii) a home for special care as defined under the *Homes for Special Care Act*
- iv) the professional office of a member of the Royal College of Dental Surgeons of Ontario
- v) the professional office of a member of the College of Physicians and Surgeons of Ontario.

The wastes that are excluded from the subject waste definition under (iv) and (v) above are wastes that are solely from a single doctor’s office or single dentist’s office. Wastes that are consolidated from multiple doctors’ or dentists’ offices (e.g., professional offices in a medical or dental building) are not excluded from the subject waste definition.

Waste from the facilities described above that are not subject waste, but are hazardous waste or LIW, must be handled at approved facilities.

(c) *Intact waste batteries*

Damaged, spent, worn out or discarded intact electric batteries that are destined for waste battery recovery facilities are excluded from the definition of subject waste. A “waste battery recovery facility” is a site at which intact waste batteries are received for recovery of battery components and there is no disposal of intact waste batteries or of recovered battery components.

(d) *Common mercury waste*

Common mercury waste that is destined for a common mercury waste recovery facility is excluded from the definition of subject waste.

“Common mercury waste” means,

- i) electrical switches, thermostats or fluorescent lamps that contain mercury and that are damaged, worn out or discarded
- ii) thermometers, barometers or other measuring devices that contain mercury and that are damaged, worn out or discarded
- iii) discarded material that contains mercury from dental procedures carried out by a member of the Royal College of Dental Surgeons of Ontario.

A “common mercury waste recovery facility” is a site at which common mercury waste is received for recovery of mercury and, where there is no disposal of common mercury waste or mercury.

(e) *Waste electrical and electronic equipment (WEEE)*

Intact WEEE that is destined for a site for the recovery of materials is excluded from the definition of subject waste. WEEE has the same meaning as in Ontario Regulation 393/04 (Waste Electrical and Electronic Equipment) made under the *Waste Diversion Act, 2002*, and includes common items such as televisions, computers, printers and fax machines.

(f) *Printed circuit boards*

Intact waste printed circuit boards that are destined for a site, where they will be processed for the recovery of materials, are excluded from the definition of subject waste.

3.2.2 Exemptions from Part V of the EPA and Regulation 347, Section 3 of Regulation 347

Section 3 of Regulation 347 identifies wastes that are exempt from Part V of the EPA and Regulation 347. Although these materials are considered to be wastes, they are not subject to generator registration and manifesting, as long as they meet the Section 3 requirements. Please note that there are sites that receive these wastes but do not meet the Section 3 requirements. These sites are waste management operations that require a Part V approval, even though some or all of the waste is processed for recovery or reclamation.

The wastes in Section 3 that are exempted from the requirements of both Part V of the EPA and Regulation 347 are listed below. Please note that the full text of Section 3 is not included here, and that this section also addresses wastes that are neither hazardous waste nor LIW. The Section 3 exemptions include:

- (a) Agricultural wastes
- (b) i) Inedible material within the meaning of Ontario Regulation 31/05 (Meat) made under the *Food Safety and Quality Act, 2001*.
- (b) ii) Any material that is condemned or derived from a carcass at a registered establishment within the meaning of the *Meat Inspection Act* (Canada).
- (c) Dead farm animals within the meaning of Ontario Regulation 106/09 (Disposal of Dead Farm Animals) made under the *Nutrient Management Act, 2002* or regulated dead animals within the meaning of Ontario Regulation 105/09 (Disposal of Deadstock) made under the *Food Safety and Quality Act, 2001*.
- (d) Inert fill
- (e) Rock fill or mill tailings from a mine.

With respect to hazardous waste and LIW, the following *may* be exempt from the requirements of both Part V of the EPA and Regulation 347.

Items (f) through (n) are discussed in more detail below, including definitions of some of the terms used. Please note that for certain exemptions to apply, there are documentation requirements that need to be met. These are described under Documentation Requirements for Specific Section 3 Exemptions at the end of this section. If you have a waste stream and are unsure if it meets any of the Section 3 recyclable material exemptions, please contact the Ministry for assistance.

Generic Recyclable Material Exemption – Item (f), (covered in paragraph 1 of subsection 3 (2) of Regulation 347)

- (f) Municipal waste, hazardous waste or LIW, other than used, shredded or chipped tires, that is transferred by a generator for direct transportation to a site, and that is:
 - i) to be wholly used at a site in an ongoing agricultural, commercial, manufacturing or industrial process or operation that is principally used for functions other than waste management, if the process or operation does not involve combustion or land application of the waste.
 - ii) to be promptly packaged for retail sale, to meet a realistic market demand
 - iii) to be offered for retail sale to meet a realistic market demand.

In every sense, the waste described in (f) above can be used as raw material, and as such is exempt from registration and manifesting requirements and all other provisions of Regulation 347 and Part V of the EPA. To qualify for this exemption, the waste must be used completely, either in a process or operation whose function is *not* waste management, or be taken directly for retail sale or prompt packaging before retail sale.

While “wholly” has not been defined, it means that all of the wastes must enter the process or operation. If the waste is used as a substitute for virgin material and is processed in the same unit as virgin material, it is exempt. For example, if lead dross is fed with lead concentrate into a sintering plant before smelting, the waste meets the requirement for this exemption. Minor modifications to the wastes, such as incidental sedimentation in storage tanks where treatment is not intended, may be acceptable. However, major pre-processing (e.g., calcining, roasting, sintering) of the waste on its own before it is used is not permissible in this exemption. For example, the breaking of lead acid batteries before the battery lead is fed into a smelter is not exempt.

In most cases, it is possible to determine whether or not the function of a process is for waste management by reviewing the viability of the process if the waste were not available. Processes or operations that are not viable without the incoming wastes are considered to be in the business of waste management. If only waste is being used in the process, and no virgin materials are used, the facility is considered a waste management operation, and therefore requires the appropriate waste approvals. For example, an oily water treatment facility is not viable without oily water. The facility is thus considered to be a waste management facility, and the oily water does not meet the requirements of the exemption described in subsection 3 (2).

By contrast, a metal degreasing operation can continue to operate without waste solvents. The supply of waste solvents is simply an alternative that is substituted for virgin solvents to obtain an economic benefit. Facility operators should be aware that the use of a waste as a substitute reagent (for example a re-hydrating agent) in a process that is recognized as waste management does not make the waste exempt in accordance with subsection 3 (2).

The difference between ongoing manufacturing operations and waste management activities can also be illustrated through the example of recycling metal-bearing wastes. In the primary metal industry, where ores or concentrates are processed, metal-bearing wastes may be fed into the smelter operation in the same process as the ores or concentrates for metal recovery. In this case, the metal-bearing wastes are considered to meet the requirements of the subsection 3 (2) exemption. However, in the secondary metal industry, where wastes are the only feedstock for the recovery of metal at the facility, the operation is considered to be engaging in waste management. In this case, the metal-bearing wastes do not meet the requirements of the general recyclable material exemption in subsection 3 (2).

Processes that combust waste or apply waste to land are not included in the exemptions described in Section 3, and thus would not meet the recyclable material requirements described above.

Waste that is packaged “as is” without any processing before packaging is considered to be “promptly packaged.” If a waste is broadly available for purchase by interested consumers, it is considered to be offered for retail sale. However, this does not mean that the waste is available for purchase by a manufacturer as a raw material.

Specific Recyclable Material Exemptions – Items (g) to (n), (covered in paragraphs 6 to 13 of subsection 3 (2) of Regulation 347)

- (g) Pickle liquor transferred by a generator for direct transportation to a site at which it is to be wholly utilized as a treatment chemical in:
 - i) a sewage works that is subject to the OWRA
 - ii) a sewage works outside Ontario, if the utilization of pickle liquor for this purpose is acceptable to the environmental regulatory authority in the jurisdiction where the sewage works is located, or
 - iii) a wastewater treatment facility that discharges into a sanitary sewer.
- (h) Solid photographic waste that contains silver, including spent chemical recovery cartridges that contain silver, when the waste is transferred by a generator and destined for a site at which it is to be processed for the recovery of silver.
- (i) Waste paint or waste coatings transferred by a generator and destined for a site at which the waste is to be used in an ongoing manufacturing process for the production of paint or coatings, if the process does not involve combustion of the waste and the paint or coatings that are produced are not used as fuel.
- (j) Emission control dust from the primary production of steel in electric furnaces, if the dust is transferred by a generator for direct transportation to a site at which it is to be used as a feedstock in an ongoing high-temperature metal recovery process in a rotary kiln, flame reactor, electric furnace, plasma arc furnace, slag reactor, industrial furnace or combination of a rotary hearth furnace and electric furnace.
- (k) Spent activated carbon transferred by a generator for direct transportation to a site at which it is to be used in a process to reactivate activated carbon.
- (l) Metal-bearing waste, other than lead acid batteries or aqueous waste, that is transferred by a generator for direct transportation to a smelter at which the waste is to be used as a feedstock in an ongoing operation for the recovery of metal—including waste that, for the purpose of being used as a feedstock, is processed through size reduction, blending, calcining, roasting, sintering, drying, pelletizing, cleaning, leaching or separation of solids from liquids, but not including waste that, for the purpose of being used as a feedstock, is processed in any other manner.
- (m) Printed circuit boards that are waste and that are transferred by a generator and destined for a smelter at which they are to be used as a feedstock in an ongoing operation for the recovery of metal.

- (n) Waste that is to be processed and used at the same site at which it is generated, if:
 - i) neither the processing nor the use of the waste involves combustion or land application of the waste, and
 - ii) the waste is not PCB waste, PCB soil or a PCB soil mixture.

The specific Section 3 exemptions that are listed in items (g) to (n) above are waste management processes that do not fit the generic recyclable material exemption. However, the Ministry wishes to promote these recycling activities, and when these wastes are managed as described, they are exempt from Part V of the EPA and Regulation 347, including generator registration requirements.

“Direct” transportation for generic and specific recyclable material exemptions means that the waste must go directly from the generator to the end user. In such cases, no intermediate transfers may take place while the waste is on the way to the recycling site.

By contrast, waste that is “destined” to go to a recycling site for generic and specific recyclable material exemptions means that the waste can go indirectly from the generator to the end user. Intermediate transfers can take place while the waste is en route to the recycling site. However, no processing, except bulking for transporting purposes, may take place at the intermediate sites.

Documentation Requirements for Specific Section 3 Exemptions

In order to maintain the validity of the exemptions that require direct transportation (i.e. f(i), g, j, k, and l above), the carrier must also comply with Section 3 (3) of Regulation 347. The carrier must have in his or her possession a document from the owner or operator of the site to which the material is being transported, and this document must:

- i) indicate that the owner or operator of the site agrees to accept the material
- ii) specify the use that will be made of the material, and
- iii) stipulate that the transported material is being shipped to an ongoing process or operation that is currently in operation, if the exemption refers to an ongoing process or operation.

For the exemptions that stipulate “destined” (i.e., (h) and (i) above) to be valid, the above requirements are also required for the carrier and any owner or operator of any transfer station at which the material is collected, handled, stored or transferred before reaching the site to which the material is destined. No processing is permitted at any intermediate site.

3.2.3 Exemption for Selected Waste Depots

Sections 43 through 60 of Regulation 347 provide the regulatory requirements for selected waste depots. If a facility meets the regulatory requirements, it is exempt from generator registration and manifesting, and does not need a C of A for a waste disposal site.

The purpose of a selected waste depot is to provide a location for consumers to return selected wastes to a retail facility for proper management (e.g., when “do-it-yourself” oil change waste is returned to a facility that sells oil). Only businesses that sell goods or service motor vehicles as one of their primary functions can set up a selected waste depot to take back wastes generated from selected products that are regularly sold at the business. The depot must be located at the business site and managed by the person who owns or has the charge, management or control of the business. Selected wastes that can be accepted at a depot include waste anti-freeze, waste oil filters, and waste lubricants (crankcase oil, gear oil, transmission fluid and hydraulic fluid).

A business that sets up a selected waste depot in accordance with the regulation must also follow the operating standards set out in the regulation. Meeting the standards allows the selected wastes from the “Do-It-Yourself” consumer and small quantity-exempt generator to be returned to retailers and service stations without waste management system (carrier) requirements for the generator, waste disposal site (receiver) requirements for the depot, and generator registration and manifesting requirements for the depot when the selected wastes are being shipped off-site.

Since these wastes are hazardous waste or LIW, the depot must therefore ensure that these wastes are managed by approved facilities.

Selected Waste Depots must have one or more valid written agreements with a waste management system that has been approved under Part V of the EPA to accept the selected wastes and have them hauled off-site.

An example of a selected waste depot could include a retail business that sells goods to the public, in which anti-freeze and oil products are among those goods. This facility has the option of setting up a selected waste depot on-site that accepts waste anti-freeze and waste oil from consumers. The wastes may be collected on-site, and then sent for appropriate management at an approved facility, using an approved waste hauler.

3.2.4 Exemption for Field Operations

Sections 29.1 to 29.5 of Regulation 347 provide the regulatory requirements for field operations. Field operations are activities or services that are performed by companies (or a public sector agency) and are part of their regular duties. Wastes that are generated from carrying out these activities or services require proper management. If the activity or service is not performed, the waste would not be generated.

A field operation activity or service must take place away from the company’s normal place of business (i.e., at a “remote site”), either on property owned by the company or on the property of another company that authorizes the activity or service to take place. If a company (or public sector agency) goes to a “remote site” and wishes to manage a waste that has already been generated (i.e., not from the activity or service that is to be performed) then it is not considered a field operation.

The field operations provisions eliminate the need for carrier and transfer station C of A in certain special situations. Generator registration and manifest requirements are also removed. In general, wastes generated from a field operation can be transported to a facility referred to as a local waste transfer site without the need for generator registration at the field site or a manifest to transport the waste from the field site. Neither the carrier nor local waste transfer site needs to obtain a C of A.

These exemptions are intended for operations that generate waste but are located in places that make it difficult to comply with the waste management requirements previously mentioned. Examples include: locations that are very remote or difficult to access and where, for example, mining and exploratory work takes place; operations that take place away from a permanent site, such as servicing manholes or pole-top transformers; or operations such as carpet cleaning or elevator repair that are performed on behalf of another company but away from the operator’s base of operation.

Field operations are not intended for companies that provide waste management services or for operations that generate waste on-site as part of their normal business. It includes conditions and restrictions that allow companies to consolidate wastes at a specific location, at which the registration, manifesting and approvals requirements apply.

3.3 Overview of Waste Streams Requiring Generator Registration

Generators are required to register subject wastes that are generated at a facility, even if the wastes are not being shipped off-site. Figure 3.1 identifies the most common waste streams and situations that require registration with the Ministry. The figure is included in the manual to provide an overview of waste management activities that affect generator registration. To determine if your specific waste stream must be registered, you will need to follow the process outlined in Figure 3.2—including characterizing the waste and determining whether Ontario’s land disposal restrictions apply.

The final determination of whether you need to register your waste stream is based on the waste characterization, whether the LDR requirements apply and how the waste will ultimately be managed.

A detailed explanation for each of the situations shown in Figure 3.1 is provided below.

1. *Waste Shipped Off-Site*

Any subject waste that is transported off-site must be registered with the Ministry. This requirement includes any subject waste hauled to an off-site waste management facility, wastes that are sent to a facility on the HWIN List of Recycling Facilities, and liquids that are transported to an off-site OWRA-approved facility.

2. *Off-Site Waste Management Facilities*

A characteristic waste that is subject to the LDR requirements and treated on-site so that it has been de-characterized after treatment but remains a subject waste (i.e., the waste cannot be land disposed because the regulated constituents in Schedule 6 of Regulation 347 do not meet the treatment requirements on or after December 31, 2009), must be registered before it is hauled to an off-site waste management facility. A characteristic waste that is subject to the LDR requirements and fully treated on-site (i.e., de-characterized and the regulated constituents in Schedule 6 meet the treatment requirements) is no longer a subject waste and registration is not required when it is hauled off-site for disposal.

3. *On-site Processing of Listed wastes or Characteristic Wastes that are Subject to LDR*

When subject wastes are processed on-site and the processed waste or residual from the waste processing remains a subject waste, the province’s registration requirements apply, and the generator must prepare a waste analysis plan as outlined in Section 85 of Regulation 347.

If the on-site processed waste or residual from the waste processing is not a subject waste, registration is not required, but a waste analysis plan as outlined in Section 85 of Regulation 347 is required, and records must be maintained for LDR purposes. Generators must also provide notification to the receiver to meet the LDR requirements for treated characteristic wastes (i.e., wastes that can be land disposed under Section 79) when they are disposed off-site. Please see Section 84 of Regulation 347 and 5.8 of this manual for further details.

4. *On-site Processing of wastes that are not subject to LDR*

Wastes that are managed by other on-site processes, such as bulking or blending operations, do not need to be registered prior to processing, if the waste is not subject to land disposal restrictions. However, subject wastes (including any residues) that are subsequently hauled off-site must be registered. Wastes that are bulked or blended and returned to an on-site process operation do not require registration.

5. *On-Site Waste Disposal*

All subject wastes that are disposed of at an on-site waste management facility must be registered with the Ministry. Examples of on-site disposal include thermal treatment such as incineration, on-site combustion such as boilers or space heaters, landfilling, landfarming and use of a waste-derived fuel. Any residues that are subject waste must also be registered. Please note that thermal treatment is not considered processing.

6. *OWRA-Approved Wastewater Treatment – Final Stage Only*

For OWRA-approved wastewater treatment processes, registration is only required for all of the independent hazardous discharges to the final stage of the OWRA-approved wastewater treatment facility. Wastes discharged to intermediate stages in the overall process do not require registration. Discharges from the final OWRA-approved treatment facility to a watercourse do not need to be registered. If the waste is subject waste, sludges and skimmed waste from the OWRA-approved treatment facility must be registered. For wastewater treatment processes that are not OWRA-approved, see explanations 3 and 4 above on processing.

7. *Discharge to Municipal Sanitary Sewers*

Hazardous wastes discharged to a municipal sanitary sewer must be registered. A generator that discharges hazardous wastes into a drain that leads to a municipal sewer must register each hazardous waste being discharged. Laboratory facilities, such as educational, research and quality control laboratories, are required to estimate the types and quantities of hazardous wastes that are disposed of in this manner, and to ensure that they are registered appropriately.

Generators should also note that discharges of hazardous waste to sanitary sewers are permitted only in accordance with municipal by-laws governing sewer use.

8. *Off-Site Water Pollution Control Plants*

All hazardous wastes and LIW hauled off-site to an OWRA-approved Water Pollution Control Plant (WPCP) must be registered with the Ministry. By contrast, wastewater discharges from an OWRA-approved WPCP to a watercourse do not need to be registered. Similarly, residues that are produced through the treatment process do not need to be registered, provided that a municipality, the Crown or the Ontario Clean Water Agency under an agreement with a municipality, owns the WPCP.

9. *On-Site Storage*

All subject wastes must be registered at the point of generation. Therefore, all subject wastes stored at a waste generation facility must be registered with the Ministry. Storage of subject waste for more than two years also requires a C of A.

Subject wastes that are stored for more than 90 days but less than two years must be stored in accordance with the requirements of Section 17.2 of Regulation 347, and the Ministry's Regional Director must be informed about the storage of the waste. A Notice of the Storage of Subject Waste form is available on the Ministry's Hazardous Rules and Regulations page on the internet, at <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.

Wastes that are stored for more than 90 days but less than two years must be registered every year for as long as the waste is being produced but should not be registered as on-site storage. Rather, the waste should be registered according to how it will be managed (e.g., off-site shipment). PCB waste storage sites must also be registered as on-site storage.

When a generator registers a waste that is being stored on-site, the C of A number or the PCB storage site approval number must be provided, as applicable.

Final disposal sites can also be waste generating facilities, if the residues or discharges from the facilities are subject wastes.

3.4 Determining Registration and Other Regulatory Requirements

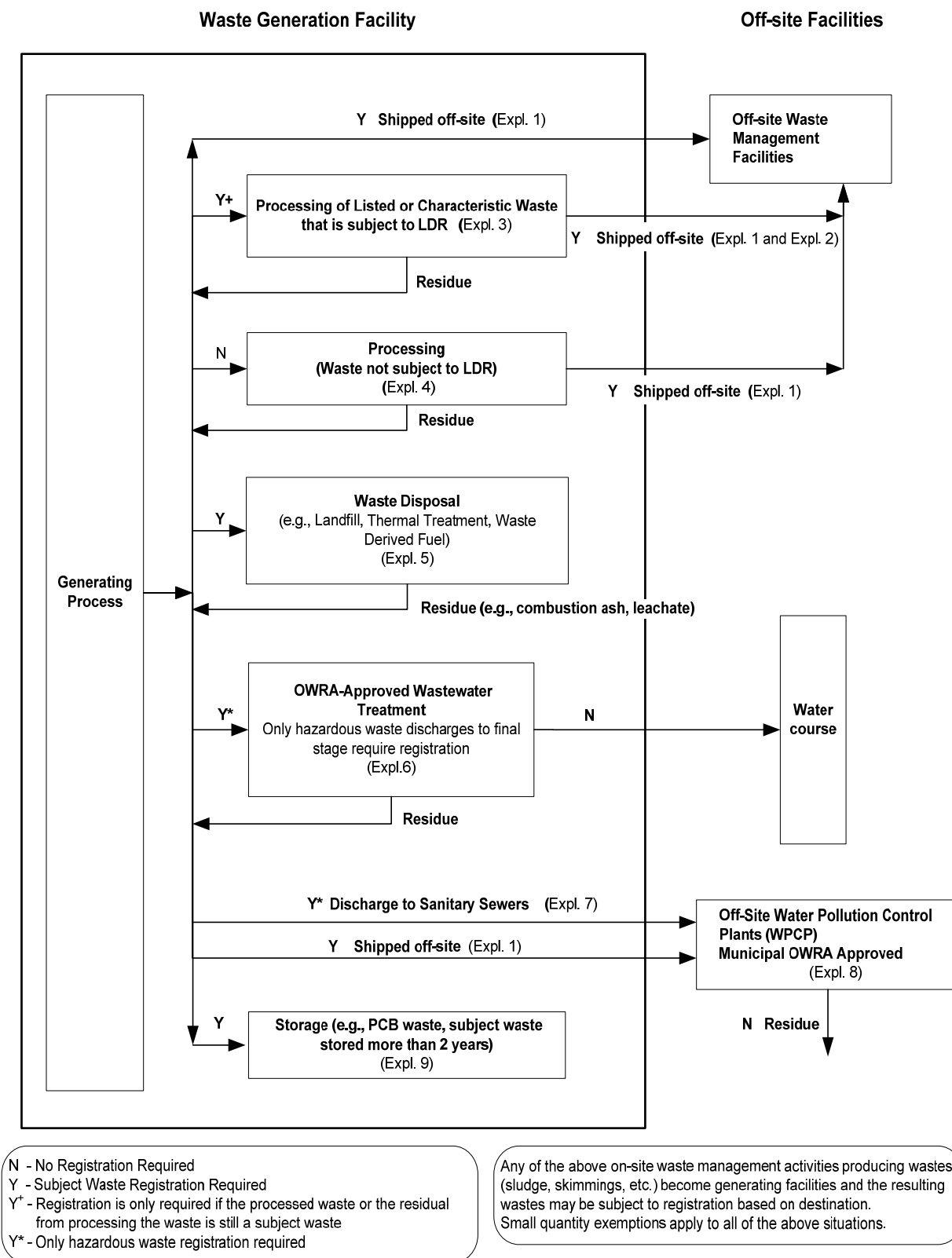
The Ministry has developed a number of flowcharts to guide generators through the process of determining whether they need to register their waste, and to help them identify other regulatory requirements related to registration. With the implementation of Ontario's LDR program, generators need to know if the LDR requirements apply to their wastes, since this will have a bearing on the generator registration process. Figure 3.2 identifies the steps that generators should follow to determine if they need to register their waste, and whether there are other regulatory provisions that require them to provide additional information.

The first step in determining whether registration is required is to determine whether you generate waste, and if so, whether your waste is subject to any registration exemptions or exclusions.

The generation of waste and the legislative and regulatory provisions that may exempt specific wastes from some regulatory requirements (e.g., registration) are discussed earlier in this section of the manual. Table 3.1 summarizes the exemptions discussed in 3.2 of this manual along with exemptions from the generator registration requirement through exemptions in the definitions of subject waste, hazardous waste, and LIW (please see 3.2.1 of this manual).

If you are a generator and your waste qualifies for any of these exemptions, including any associated regulatory requirements that make your waste eligible for the exemption, generator registration is not required. By contrast, if your waste does not meet the exemption requirements, you need to characterize your waste (please see 3.5, Figure 3.3 of this manual). In the case of both hazardous waste and LIW, you cannot determine whether your waste is exempt from registration under the definitions outlined above until you have characterized the waste.

Figure 3.1 Overview of Waste Streams Requiring Generator Registration



The waste characterization process is outlined in 3.5 of this manual. After completing this process, you need to determine whether the LDR requirements apply for the purposes of registration (see 3.6, Figure 3.4 of this manual). This determination will lead you either to Figure 3.5 or 3.6 of this manual, which will enable you to confirm whether registration is required, and help you identify any other associated regulatory requirements.

Once you have confirmed that your waste requires registration, you will need to identify the appropriate waste class. Guidance on this process is provided in 3.7 of the manual. Section 1 above of the manual provides additional information on managing your waste, along with the main regulatory requirements that are associated with different waste management options.

3.5 Determining the Characterization of your Waste Stream

This section of the manual is designed to help generators determine if their waste meets the criteria for hazardous waste or LIW. The first step in determining the characterization of your waste is to identify any constituents in the waste that could make it hazardous. This can be done through a combination of testing and applying the generator's own knowledge of the waste stream, and is discussed in more detail in 3.5.1 below.

The second step in the process of waste characterization is to determine whether registration is required, as outlined in the waste characterization flowchart (Figure 3.3). This figure will help you identify those waste characterizations that are primary and those that are secondary.

You should also ensure that you follow the waste characterization flowchart and associated explanations through to completion, to ensure that you have identified all of your subject wastes. At the same time, you will need to identify the appropriate waste class for each of your waste streams. Section 3.7 of the manual provides guidance on choosing the most appropriate waste class for your waste.

Please note that determining the characterization of your waste stream must be done at the point of generation (please see 3.1.3 of the manual for more information on when a waste is considered to be generated). Wastes should not be bulked, blended or mixed in any way until the characterization process has been completed.

Figure 3.2 Steps to Determine Registration and Other Regulatory Requirements

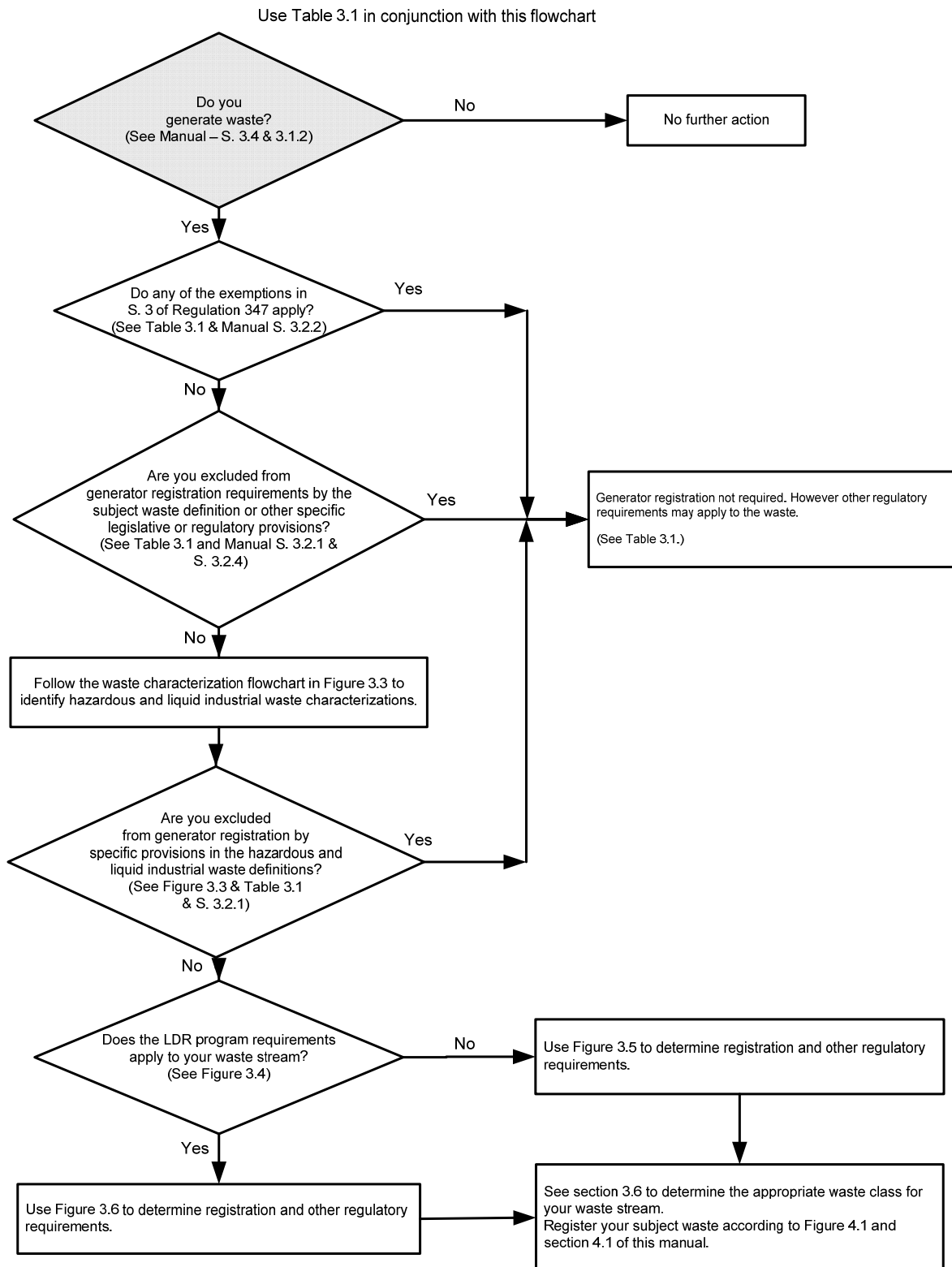


Table 3.1 Do any exemptions from waste generator registration apply?

Question		Section of Regulation and Manual	Requirements
Section 3 Exemptions	Is your waste exempt from Part V of the EPA and Regulation 347 through S.3 of the regulation?	<ul style="list-style-type: none"> • S.3 of Regulation 347 • 3.2.2 of this manual 	<ul style="list-style-type: none"> • Waste characterization and generator registration not required • If exempt through paragraph 1i, 6, 9, 10 or 11 of S. 3 (2), you must meet the requirements of S. 3 (3) of Regulation 347 • If exempt through paragraph 7 or 8 of S. 3 (2), you must meet the requirements of S. 3 (3.1) of Regulation 347
Subject Waste Definition	Is your waste excluded from the definition of subject waste?	<ul style="list-style-type: none"> • S.1 of Regulation 347 • S.1 (3) 1 to 6 of Regulation 347 • 3.2.1.2 of this manual 	<ul style="list-style-type: none"> • Generator registration not required • Although exempt from the subject waste definition, the waste may still meet the definition of hazardous waste or LIW • Waste must be managed or disposed of at a facility approved for these types of hazardous waste or LIW and, if shipped, must be with an appropriately approved carrier. • If waste is from the servicing of motor vehicles at a retail motor vehicle service station or service facility, there must be a written agreement for the collection and management of the waste with a waste management system approved under Part V of the Act (see Guideline C-11-1: Procedures for the Handling and Disposal of Selected Wastes from Retail Motor Vehicle Servicing Facilities) • If waste is WEEE or printed circuit boards, the waste must be destined for a site at which they are to be processed for the recovery of materials. • If waste is intact waste batteries, or common mercury waste the waste must be destined for a waste battery recovery facility or common mercury waste recovery facility, respectively.

Table 3.1 Do any exemptions from waste generator registration apply?

Question		Section of Regulation and Manual	Requirements
Specific Legislative or Regulatory Provisions	Is your waste excluded from generator registration by other specific legislative or regulatory provisions?	<p>Exemptions through the EPA, other Acts, or Regulation 347 (see 3.2.3 to 3.2.4 of this manual):</p> <ul style="list-style-type: none"> • Treated wastewater discharged to watercourses from OWRA approved facilities • Selected waste depots (S.43-60 of Regulation 347) • Field operations (S.29.1-29.5 of Regulation 347) • C of A 	<ul style="list-style-type: none"> • Generator registration not required • For OWRA facilities, registration of hazardous waste discharged into the final stage of treatment facility and subject wastes generated by these facilities are not exempt • Must meet all associated requirements in Regulation 347 or other Ministry documents to be exempt from generator registration requirement <ul style="list-style-type: none"> ▪ S.43-60 for selected waste depots ▪ S.29.1-29.5 for field operations ▪ Other Ministry documents (i.e., C of A)
	Is your waste excluded from the definition of hazardous waste?	<ul style="list-style-type: none"> • S.1 of Regulation 347, items (l) through (u) of the definition of hazardous waste • Waste characterization must be completed • See Figure 3.3 and sections 3.2.1 and 3.5.3 of this manual 	<ul style="list-style-type: none"> • Generator registration not required • These non-hazardous wastes must be managed or disposed of at an appropriately approved facility and if shipped must be with an appropriately approved carrier.
Definitions of Hazardous and Liquid Industrial Waste	Is your waste excluded from the definition of LIW?	<ul style="list-style-type: none"> • S.1 of Regulation 347, items (a) through (i) of the definition of LIW • Waste characterization must be completed • See Figure 3.3 and sections 3.2.1 and 3.5.3 of this manual 	<ul style="list-style-type: none"> • Generator registration not required • These non-hazardous wastes must be managed or disposed of at an appropriately approved facility and if shipped, must be with an appropriately approved carrier.

3.5.1 Waste analysis requirements

Generators need to have enough knowledge about their waste streams to be able to characterize them accurately, in order to determine whether or not each waste stream needs to be registered with the Ministry. In some cases, the waste may need to undergo laboratory testing, while in others the generator's knowledge of the waste may be all that is needed to characterize the waste appropriately. In many cases, a combination of the generator's knowledge and laboratory testing will be the best approach to characterization.

As a generator, you are responsible for accurately characterizing and registering the waste. Your records are subject to Ministry inspection, and they must demonstrate that the waste analysis you carried out resulted in the waste being characterized appropriately. Generators must maintain at least three years' worth of records at the waste generation facility showing all data, analysis and other information used to prepare the GRR. Waste analysis does not have to be repeated to characterize the waste unless there is a change to the process or materials used in the process that produces it. As a result, generators should retain their waste analysis and other relevant records for as long as they continue to generate the waste, and for the required period after they cease generating it.

3.5.1.1 Waste characterization using generator knowledge

There are a number of cases where the generator's knowledge of the waste may be sufficient to characterize the waste stream appropriately. For example, if you know that your waste is a hazardous waste chemical, you do not have to perform an analysis to confirm this.

Similarly, it may not be necessary to test listed wastes in a laboratory. For example, if an industrial process that is identical to the process described in the listing generates a listed waste, analysis may not be necessary to identify the waste stream's hazardous characteristics. If the waste stream is not a listed waste, information from the Material Safety Data Sheets (MSDS) or laboratory analysis can be used to determine if the waste exhibits any of the characteristics of hazardous waste.

By contrast, in the case of wastes that are subject to LDR requirements, the generator's knowledge may not be sufficient for characterization. In such cases, additional analysis and assessment may be needed to identify the regulated constituents in the waste that have to be treated.

3.5.1.2 Waste characterization using laboratory analysis

If laboratory testing is needed to characterize your waste stream, you should use your knowledge of the waste to help determine the specific analyses that are needed, since it is only necessary to analyze the waste for constituents that are reasonably expected to be present.

For hazardous industrial wastes, if the production process differs from the process described in the listing in Regulation 347, generators may need to test their waste for additional constituents that may be present. Again, however, the specific analysis carried out should be based on the generator's knowledge of the process used and the waste being produced. For example, if all of the chemicals used in the industrial process are inorganic, it is not necessary to test the waste for organic compounds.

A similar approach is recommended for characteristic wastes. Depending on the origin of the waste, lab testing may be needed to identify whether the waste is corrosive, ignitable, and/or leachate toxic. The analyses conducted should be based on the generator's knowledge of the waste stream. For example, when you are analysing for leachate toxicity you should test for contaminants that can reasonably expected to be present in the waste. With this approach, a complete analysis to identify all the possible contaminants that can cause a waste to be leachate toxic would only be necessary if there was no information on the history or origin of the waste.

3.5.2 Using the Waste Characterization Flowchart

The waste characterization flowchart in Figure 3.3 is designed to help you bring a systematic approach to determining whether or not you need to register your facility and the wastes it produces. This section of the manual contains the explanations that appear throughout the flowchart.

All subject waste generated on-site ***must be registered, even if it is not shipped off-site.*** Please note that after a characteristic waste is fully treated to meet the land disposal treatment requirements, it is no longer a subject waste.

Please note that you need to follow the flowchart in Figure 3.3 through to completion for each waste stream, to ensure that you have identified and prioritized all characterizations for a particular waste. If more than one waste characterization applies, the first characterization identified using the flowchart is defined as the ***primary characterization*** that you should report for all subject wastes. Any additional characterizations that you identify using the flowchart are defined as ***secondary characterizations***. For wastes that are subject to LDR notification requirements, you must identify ***all*** additional secondary characterizations for each waste stream, and report them in the LDR notification form (Part 2B) of the GRR.

Please do ***not*** attempt to complete your GRR until you have followed the flowchart through to completion for each waste stream and have read all the relevant explanations.

3.5.3 Flowchart Explanations

Note: These explanations are only to be used in conjunction with the waste characterization flowchart (Figure 3.3).

Explanation 1 – Severely Toxic Waste

Severely toxic wastes are characterized as wastes that contain one or more of the contaminants listed in Schedule 3 of Regulation 347 at a concentration greater than one part per million. Schedule 3 is reprinted in this manual in Appendix A. Severely toxic wastes could include pesticides such as 2,4,5-T and pentachlorophenol, but are unlikely to include industrial waste streams. Please note that a mixture of severely toxic waste and any other waste or material remains severely toxic waste.

Similarly, waste that is derived from severely toxic waste remains severely toxic waste unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste

that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the severely toxic waste from which it was derived.

Please note that there is no SQE for severely toxic wastes, and that empty containers and liners are also considered to be hazardous waste.

If you generate a waste that is severely toxic, you will need to specify the following information on the GRR:

- **Waste characterization - Severely toxic (S)**
- **Waste Class** – Select the three-digit waste class number from Appendix B of this manual next to the listing that best describes your waste
- **Waste Number** - Add the letter “S” to the waste class number to specify the above waste characterization, for example, 242S
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Schedule 3, used to identify individual Severely Toxic wastes (e.g., S001).

Please note that severely toxic wastes are subject to LDR treatment requirements before land disposal.

Explanation 2 – Pathological Waste

Regulation 347 defines pathological waste, in part as follows:

- i) any part of the human body, including tissues and bodily fluids, but excluding fluids, extracted teeth, hair, nail clippings and the like, that are not infectious
- ii) any part of the carcass of an animal infected with a communicable disease or suspected by a licensed veterinary practitioner to be infected with a communicable disease, or
- iii) non-anatomical waste infected with a communicable disease.

If you are in doubt as to whether or not your waste is pathological, you should consult with, for example, a licensed medical practitioner, a veterinary doctor or a bio-safety officer. Please also note that a mixture of a pathological waste and any other waste or material remains pathological waste. Waste that is derived from pathological waste also remains pathological waste, unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of pathological waste.

Please note that there is no SQE for pathological wastes, and that empty containers and liners are also pathological waste unless they have been incinerated, autoclaved or otherwise sterilized to make them non-infectious.

If you generate a pathological waste, you will need to specify the following information on the GRR:

- **Waste characterization - Pathological waste (P)**
- **Waste Class** – Select the three-digit waste class number 312 from Appendix B of this manual
- **Waste Number** - Add the letter “P” to the waste class number to specify the above waste characterization, 312P. *Please note that no other combination of waste class and characterization can be used to identify pathological waste*
- **Hazardous Waste Number** – Not Applicable.

Pathological wastes are not subject to Ontario's LDR treatment requirements.

Explanation 3 – PCB Waste

PCB waste in Regulation 347 has the same meaning as in Regulation 362. In general, PCB wastes are wastes that contain PCBs at concentrations greater than 50 parts per million (ppm) by weight. Please refer to Regulation 362 on the Ministry's website for further details at (http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900362_e.htm).

Electrical or other equipment that contains PCBs that is still in service is not considered to be waste, and thus does not require registration. However, if the equipment comes out of service or the PCB liquid is drained from the equipment, registration is required. PCB wastes that are stored on a site, whether or not this is authorized by any other regulation, must be registered.

If you generate PCB wastes or have PCB wastes stored, you will need to specify the following information on the GRR.

- **Waste characterization - PCB waste (D)**
- **Waste Class** – Select the three-digit waste class number 243 from Appendix B of this manual
- **Waste Number** - Add the letter “D” to the waste class number to specify the above waste characterization, 243D. *Please note that no other combination of waste class and characterization can be used to identify PCB waste.*
- **Hazardous Waste Number** – Not Applicable.

Regulation 347 prohibits the land disposal of PCB wastes. Generators should note, however, that wastes containing PCBs that do not meet the definition of PCB waste may exhibit a characteristic of hazardous waste (see leachate toxic wastes).

Generators of PCB wastes must also meet federal reporting requirements for PCBs (see <http://www.ec.gc.ca/wmd-dgd/default.asp?lang=En&n=E245C68E-1> for more information on the *Canadian Environmental Protection Act* (Canada) (CEPA) regulations for PCBs).

Explanation 4 – Acute Hazardous Waste Chemical and Hazardous Waste Chemical

For wastes that are commercial chemical products or combinations of commercial chemical products, generators must consider Part A of Schedule 2 (acute hazardous waste chemical) and Part B of Schedule 2 (hazardous waste chemical) of Regulation 347. These schedules are reprinted in Appendix A of this manual.

It is important to note that Part A and Part B of Schedule 2 are lists of *products or by-products* that are seldom disposed of, but, for whatever reason, become wastes. These are *not* lists of contaminants that, if present in a waste stream, make the waste stream hazardous.

Acute hazardous waste chemicals or hazardous waste chemicals are commercial chemical products or manufacturing intermediates that are off-specification or otherwise unacceptable for use from time to time. Commercial waste chemicals include materials such as pharmaceutical or pesticide waste products that contain active ingredients in Part A or Part B of Schedule 2. Active ingredients are chemical constituents that have been included in a formulated product for an intended effect. For example, a waste pesticide formulation that includes dieldrin (which is listed in Part A of Schedule 2) as an active ingredient would be classified as an acute hazardous waste chemical.

Generators should carefully review Part A and Part B of Schedule 2. While there are a number of ways of naming any chemical, the chemical abstracts service registry number (CAS number) is a unique number assigned to each chemical.

To determine whether a waste chemical is in these schedules, generators should search for the CAS number, if available. Otherwise, the synonyms for each chemical must be identified and each synonym compared to the schedules, which are arranged alphabetically. For commercial chemical products that are known only by the trade name, generators should contact the supplier to identify the generic name or CAS number of the active ingredients, so they can be compared with the schedules.

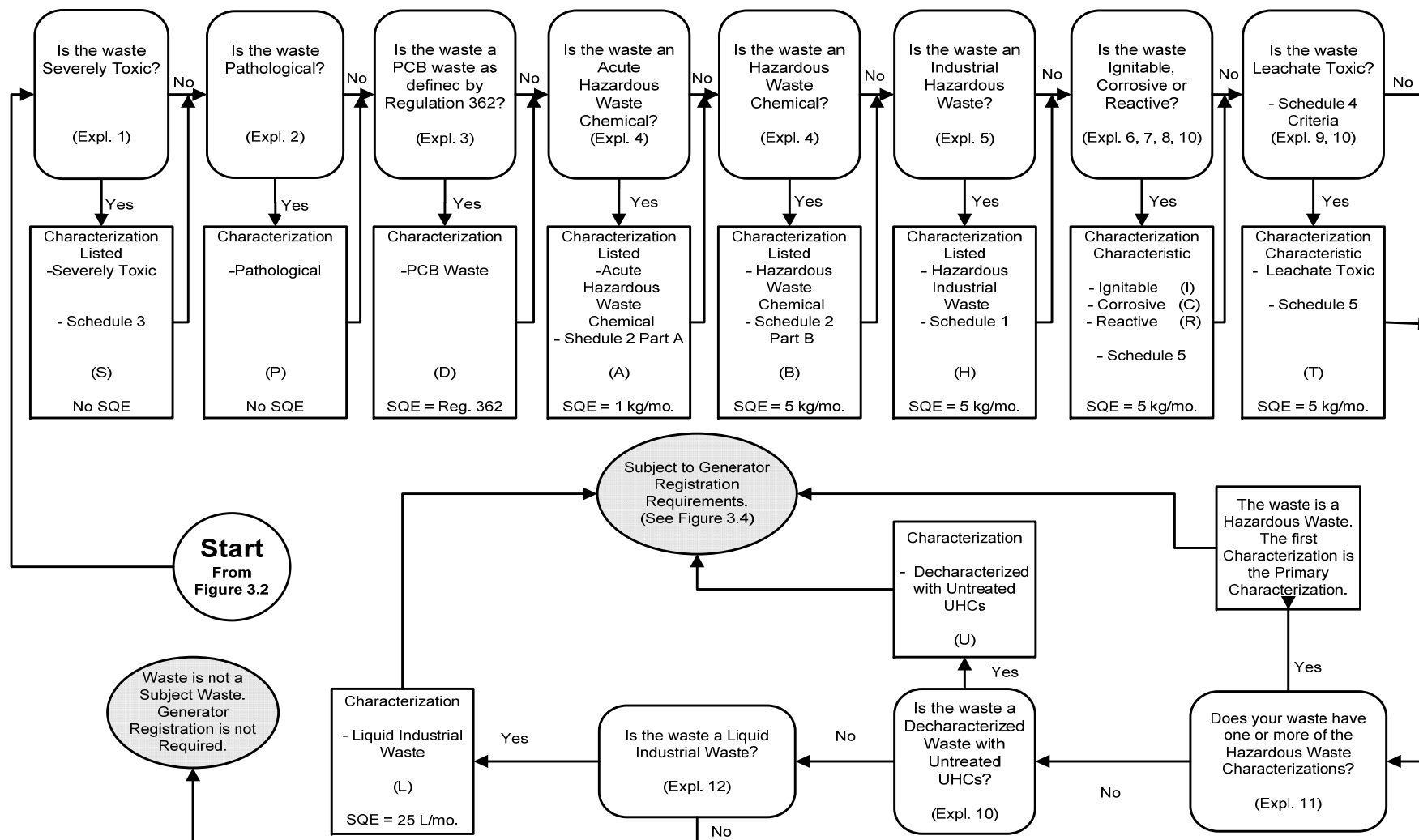
A mixture of an acute hazardous waste chemical and any other waste or material remains an acute hazardous waste chemical. In the same way, a mixture of a hazardous waste chemical and any other waste or material remains a hazardous waste chemical.

Waste derived from an acute hazardous waste chemical remains an acute hazardous waste chemical — unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the acute hazardous waste chemical from which it was derived. Similarly, waste derived from a hazardous waste chemical remains a hazardous waste chemical — unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the hazardous waste chemical from which it was derived.

For the wastes listed in Part A of Schedule 2, or wastes that contain active ingredients in Part A of Schedule 2, ***the small quantity exemption (SQE) is one kg of waste per month.*** If you generate one kg or more of this type of waste in a one-month period, or accumulate one kg or more at your site over any period, the small quantity exemption does not apply, and you must register the hazardous waste. For example, if your facility generates 0.5 kg per month but accumulates waste for six months before shipping it off-site for disposal, the waste is not eligible for a small quantity exemption, since the total quantity accumulated is greater than the small quantity exemption.

Containers with 20 litres or more of capacity that previously contained products in Part A of Schedule 2 are considered hazardous waste unless they have been triple-rinsed with an appropriate solvent. Inner liners that weigh 10 kg or more and that previously contained products in Part A of Schedule 2 are also considered hazardous waste, unless they have been triple-rinsed with an effective solvent.

Figure 3.3 Waste Characterization Flowchart



Note: The waste characterization flowchart must be followed through to completion for each waste generated. For a detailed explanation on waste characterization refer to section 3 of the Registration Manual. If you treat your waste on-site, registration and other requirements depend on whether the processed waste or residual is a subject waste and whether LDR requirements apply. (see Figure 3.4, 3.5 & 3.6)

If you generate a waste that is found in Part A of Schedule 2, or that contains active ingredients in Part A of Schedule 2, you will need to specify the following information on the GRR:

- **Waste characterization - Acute Hazardous Waste Chemical (A)**
- **Waste Class** – Select the three-digit waste class number from Appendix B next to the listing that best describes your waste. For example, the number could be 148 if the chemical is inorganic, 263 if the chemical is organic, or 261 if the waste is pharmaceutical
- **Waste Number** - Add the letter “A” to the waste class number to specify the above waste characterization, for example, 148A, 263A or 261A
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Part A of Schedule 2, which is used to identify individual Acute Hazardous Waste Chemicals (e.g., P026).

Acute hazardous waste chemicals are subject to LDR treatment requirements before land disposal.

For wastes listed in Part B of Schedule 2 or wastes containing active ingredients in Part B of Schedule 2, the *SQE is five kg of waste per month*. If you generate five or more kg of this type of waste in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you are required to register the hazardous waste. Empty containers and inner liners that contained products in Part B of Schedule 2 are not considered to be hazardous waste.

If you generate a waste that is found in Part B of Schedule 2 or that contains active ingredients in Part B of Schedule 2, you will need to specify the following information on the GRR:

- **Waste characterization - Hazardous waste chemical (B)**
- **Waste Class** – Select the three-digit waste class number from Appendix B, next to the listing that best describes your waste. For example, the number could be 148 if the chemical is inorganic, 263 if the chemical is organic or 261 if the waste is pharmaceutical
- **Waste Number** - Add the letter “B” to the waste class number to specify the above waste characterization (e.g., 148B, 263B or 261B)
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Part B of Schedule 2, which is used to identify individual Hazardous Waste Chemicals (e.g., U021).

Hazardous waste chemicals are subject to LDR treatment requirements before land disposal.

Explanation 5 – Hazardous Industrial Waste

Industrial waste streams that are considered to be hazardous are listed in Schedule 1 of Regulation 347. Schedule 1 is reprinted in Appendix A of this manual, along with descriptions of both generic and process-specific waste streams that you can compare to your process waste stream.

A mixture of a hazardous industrial waste and any other waste or material remains a hazardous industrial waste. Waste that is derived from hazardous industrial waste remains hazardous industrial waste — unless it is produced in accordance with a C of A that states that, in the opinion of the Section 39 Director, the waste that is produced in accordance with the Certificate of Approval does not have characteristics similar to the characteristics of the hazardous industrial waste from which it was derived.

For hazardous industrial waste, the *SQE is five kg per month*. If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and

you are required to register the hazardous waste. Empty containers and inner liners that contained wastes listed in Schedule 1 are not considered hazardous wastes.

If you generate a waste that is listed in Schedule 1, you will need to specify the following information on the GRR:

- **Waste characterization** - Hazardous industrial waste (**H**)
- **Waste Class** – Select the three-digit waste class number from Appendix B, next to the listing that best describes your waste
- **Waste Number** - Add the letter “**H**” to the waste class number to specify the above waste characterization (e.g., 211H)
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Schedule 1, which is used to identify individual Hazardous Industrial Wastes (e.g., F001 or K001).

Hazardous industrial wastes are subject to LDR treatment requirements before land disposal.

Explanation 6 – Ignitable Waste

Wastes that are ignitable are defined in Regulation 347 by any of four criteria listed below.

1. It is a liquid, other than an aqueous solution containing less than 24 per cent alcohol by volume, and has a flash point less than 61° C, as determined by any of the following test methods:
 - ASTM D-56-79
 - ASTM D-3243-77
 - ASTM D-3278-78
 - ASTM D-93-79 or
 - as determined by an equivalent test method approved by the Director.

Examples of ignitable liquid waste include ethanol, varsol, gasoline or petroleum distillates.

2. It is a solid and is capable, under standard temperature and pressure, of causing fire due to friction, absorption of moisture, or spontaneous chemical changes, and when ignited burns so vigorously and persistently that it creates a danger.

An example of an ignitable solid waste is sodium metal.

3. It is a Class 2.1 Flammable Gas within the meaning of paragraph 2.14(a) of the Transportation of Dangerous Goods Regulations (TDGR) made under the *Transportation of Dangerous Goods Act* (Canada).

Class 2, Division 1 gases in the TDGR are identified as:

- (a) Class 2.1, Flammable Gases, which consists of gases that, at 20°C and an absolute pressure of 101.3 kPa,
 - (i) are ignitable when in a mixture of 13 per cent or less by volume with air, or
 - (ii) have a flammability range with air of at least 12 percentage points determined in accordance with tests or calculations in ISO 10156;

Examples of ignitable gases include methane (natural gas), butane or butane mixtures, and propane.

4. It is a Class 5.1 Oxidizing Substance within the meaning of paragraphs 2.24(a) of the Transportation of Dangerous Goods Regulations made under the *Transportation of Dangerous Goods Act* (Canada), or

It is a Class 5.2 Organic Peroxide within the meaning of paragraphs 2.24(b) of the Transportation of Dangerous Goods Regulations made under the *Transportation of Dangerous Goods Act* (Canada).

This includes substances such as chlorates, permanganates, and nitrates that readily yield oxygen to stimulate, or contribute to, the combustion of other materials. Substances that contain the bivalent -O-O- structure are also considered to be oxidizers.

To assist in your evaluation, Schedule 1 of TDGR lists a number of oxidizing substances and organic peroxides as Class 5 dangerous goods. These are substances that have a 5.1 or 5.2 designation in column 3 of this list. In the same manner, Schedule 1 of the TDGR lists a number of ignitable and flammable gases as Class 2 dangerous goods. These are substances that have a 2.1 designation in column 3 of this list.

For ignitable wastes the *SQE is five kg per month*. If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you must register the hazardous waste. Empty containers and liners that contained ignitable wastes are not considered to be hazardous waste.

If you generate a waste that is an ignitable waste, you will need to specify the following information on the GRR:

- **Waste characterization - Ignitable waste (I)**
- **Waste Class** – Select the three-digit waste class number from Appendix B of this manual next to the listing that best describes your waste
- **Waste Number** - Add the letter “I” to the waste class number to specify the above waste characterization (e.g., 213I)
- **Hazardous Waste Number** – select the four-character code D001 found in Column 1 of Schedule 5 of Regulation 347, used to identify Ignitable Characteristic wastes.

You may also be required to specify the following information on the GRR:

- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 of Regulation 347 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement described in the schedule.

Ignitable wastes are subject to land disposal treatment requirements before land disposal. If you process ignitable wastes on-site that will be land disposed, please also see Explanation 10 on de-characterized waste with untreated UHCs.

Explanation 7 – Corrosive Waste

Wastes that are corrosive are defined in Regulation 347 by any of the three criteria listed below.

1. It is aqueous and has a pH less than or equal to 2.0, or greater than or equal to 12.5, as determined by a pH meter
2. It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 millimetres per year at a test temperature of 55° C, using the National Association of Corrosion Engineers (NACE) test method TM-01-69 or an equivalent test approved by the Director
3. It is a solid and, when prepared in a mixture or solution with distilled water that is 50 per cent waste by weight, has a pH less than or equal to 2.0 or greater than or equal to 12.5, as determined by a pH meter — other than;
 - i) solid incinerator ash or fly-ash from a woodwaste combustor site, or
 - ii) solid wastes generated by a manufacturer of pulp, paper, recycled paper, corrugated cardboard or other paper products.

For corrosive wastes the ***SQE is five kg per month***. If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you are required to register the hazardous waste. Empty containers and inner liners that contained corrosive wastes are not considered to be hazardous waste.

If you generate a waste that is a corrosive waste, you will need to specify the following information on the GRR:

- **Waste characterization - Corrosive waste (C)**
- **Waste Class** – Select the three-digit waste class number from Appendix B, beside the listing that best describes your waste
- **Waste Number** - Add the letter “C” to the waste class number to specify the above waste characterization (e.g., 111C)
- **Hazardous Waste Number** – select the four-character code D002 found in Column 1 of Schedule 5 of Regulation 347, which is used to identify Corrosive Characteristic wastes.

You may also be required to specify the following information on the GRR:

- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 of Regulation 347 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement described in the schedule.

Corrosive wastes are subject to land disposal treatment requirements before land disposal. If you process corrosive wastes on-site that will be land disposed, see also Explanation 10 on de-characterized waste with untreated UHCs.

Explanation 8 – Reactive Waste

Regulation 347 defines reactive waste as a waste that can exhibit a range of diverse properties. Generally, the intent is to include wastes that are susceptible to violent/vigorous reactions or are likely to generate toxic fumes. A reactive waste is one that meets any of the criteria listed below, which are used to define reactive wastes in Regulation 347:

1. It is normally unstable and readily undergoes violent change without detonating
2. It reacts violently with water
3. It forms potentially explosive mixtures with water
4. When mixed with water it generates toxic gases, vapours or fumes in a quantity great enough to present danger to human health or the environment

5. It is a cyanide- or sulphide-bearing waste which, when exposed to pH conditions between 2.0 and 12.5, can generate toxic gases, vapours or fumes in a quantity great enough to present danger to human health or the environment
6. It is capable of detonation or explosive reaction if it subjected to a strong initiating source or if it is heated under confinement
7. It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure
8. It is a Class 1 Explosive within the meaning of section 2.9 of the Transportation of Dangerous Goods Regulations made under the *Transportation of Dangerous Goods Act* (Canada).

For reactive wastes the **SQE is five kg per month**. If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you must register the hazardous waste. Empty containers or inner liners that contained reactive wastes are not considered to be hazardous waste.

If you generate a waste that is reactive, you will need to specify the following information on the GRR:

- **Waste characterization - Reactive waste (R)**
- **Waste Class** – Select the three-digit waste class number from Appendix B next to the listing that best describes your waste
- **Waste Number** - Add the letter “**R**” to the waste class number to specify the above waste characterization (e.g., 263R)
- **Hazardous Waste Number** – select the four-character code D003 found in Column 1 of Schedule 5 of Regulation 347, which is used to identify Reactive Characteristic wastes.

You may also be required to specify the following information on the GRR:

- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 of Regulation 347 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement outlined in the schedule.

Reactive wastes are subject to land disposal treatment requirements before land disposal. If you process reactive wastes on-site that will be land disposed, please also see Explanation 10 on de-characterized waste with untreated UHCs.

Explanation 9 – Leachate Toxic Waste

Leachate toxic waste means a waste that produces leachate that contains any of the contaminants listed in Schedule 4 of Regulation 347 (Appendix A) — if these contaminants are at a concentration that is equal to or in excess of the concentration specified for that contaminant in Schedule 4, using the Toxicity Characteristic Leaching Procedure (TCLP). This characterization, as described by the TCLP, applies to both liquid and solid wastes, and includes multi-phase wastes. This test identifies the leachability of hazardous constituents, and is used to determine if a waste is hazardous.

The determination of leachate toxicity is not limited to wastes that will be land disposed. Leachate toxicity describes a characterization of hazardous waste, and may apply to any kind of waste, regardless of how it will be disposed. The term “leachate toxic” should not be confused with leachate that is produced at a landfill site.

For leachate toxic wastes the SQE is five kg of waste per month. If you generate five or more kg in a one-month period, or accumulate five or more kg at your site over any period, the SQE does not apply, and you are required to register the hazardous waste. Empty containers and inner liners that contained leachate toxic wastes are not considered to be hazardous waste.

If you generate a waste that is leachate toxic waste, you will need to specify the following information on the GRR:

- **Waste characterization** - Leachate toxic waste (**T**)
- **Waste Class** – Select the three-digit waste class number from Appendix B beside the listing that best describes your waste
- **Waste Number** - Add the letter “**T**” to the waste class number to specify the above waste characterization (e.g., 131T)
- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Schedule 5 of Regulation 347, which is used to identify individual Leachate Toxic wastes (e.g., D004).

You may also be required to specify the following information on the GRR:

- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 of Regulation 347 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement outlined in the schedule.

Leachate toxic wastes are subject to land disposal treatment requirements before land disposal. If you process leachate toxic wastes on-site that will be land disposed, please also see Explanation 10 on de-characterized waste with untreated UHCs.

Explanation 10 – De-characterized Waste with Untreated UHCs

On or after December 31, 2009, subject waste includes waste that was characteristic waste but that has been treated so that it is no longer characteristic waste, but does not meet the LDR treatment requirements in subsection 79 (1) of Regulation 347. Typically, this is waste that has been treated to remove the hazardous characteristic but that still requires further treatment of regulated constituents to meet the land disposal treatment requirements in Schedule 6 of Regulation 347. De-characterized wastes that will be land disposed and have UHCs that do not meet the Schedule 6 standards must be registered and manifested when they are shipped off-site.

If a characteristic waste has been treated so that it is no longer hazardous but does not meet the land disposal treatment requirements in subsection 79 (1) (i.e., additional regulated constituents from Schedule 6 still require treatment), the waste must be registered if it is shipped off-site. The waste characterization that has been created for these de-characterized wastes is U. This waste characterization applies once the Schedule 6 treatment standards take effect, on December 31, 2009.

If you generate a waste that is de-characterized, you will need to specify the following information on the GRR:

- **Waste characterization** - De-characterized Waste with Untreated UHCs (**U**)
- **Waste Class** – Select the three-digit waste class number from Appendix B beside the listing that best describes your waste
- **Waste Number** - Add the letter “**U**” to the waste class number to specify the above waste characterization (e.g., 113U)

- **Hazardous Waste Number** – select the four-character code (a letter followed by three numbers) found in Column 1 of Schedule 5 of Regulation 347, which is used to identify individual Characteristic wastes (e.g., D001 or E001). The original hazardous waste number for the untreated characteristic waste should be used.
- **Underlying Hazardous Constituent (UHC)** – select the regulated constituents found in Column 1 of Schedule 6 that are present in the waste at the point of generation, if its concentration is at or above the treatment requirement.

Fully treated characteristic wastes that are not subject to LDR requirements do not need to be registered. More information on registering characteristic wastes that are processed on-site is included in 4.1.2 of the manual.

Explanation 11 – Hazardous Waste

If a waste exhibits any of the waste characterizations discussed in explanations 1 through 9, it is considered to be a hazardous waste and is therefore subject to generator registration and manifesting provisions. Listed and characteristic wastes (explanations 1 and 4 through 9) are also subject to LDR requirements if they are to be land disposed.

The first characterization identified in the flow chart is defined as the primary waste characterization for the waste, and this is used to identify the appropriate waste class for the purposes of registration. However, all additional secondary characterizations must also be identified. For wastes that are subject to LDR notification requirements, all characterizations must be identified for each waste stream, and reported in the LDR notification form of the GRR (Part 2B).

If you generate a characteristic waste (explanations 6 through 9) that is being processed on-site, the waste may remain a subject waste after processing if the waste will be land disposed. Please see Explanation 10 above for further information.

Where it is desirable to manage a number of wastes with different primary characterizations as a single load, the combined load is referred to as a “lab pack.” Further information about lab packs can be found in 3.7.5 of this manual.

A number of explanations refer to waste that is derived from waste with a specified characterization. A waste subject to the derived-from rule retains its waste characterization, even if it is processed at an approved facility — unless the C of A for the facility specifically states that the resulting waste no longer retains the original hazardous characterization. A number of explanations also indicate that waste that is mixed with any other waste or material retains its original hazardous characterization. The mixture and derived-from rules are discussed earlier, in 3.1.4.1 of this manual.

There are additional limitations on the mixing of hazardous wastes with other wastes or materials, particularly for wastes that are subject to LDR. The conditions under which mixing of hazardous wastes can occur at a waste generation facility without a C of A are outlined in 6.1.2 of the manual. Hazardous waste exemptions are discussed in 3.2 of the manual.

Explanation 12 – Liquid Industrial Waste

LIW are also subject to generator registration and manifesting provisions. These wastes include any liquid waste from industrial, commercial, manufacturing, research or experimental activities. Liquid

wastes include wastes that are obvious liquids, such as spent acid solutions, as well as those sludges that fail the slump test included in Schedule 9 of Regulation 347.

To find out more about the slump test, please refer to Schedule 9 of Regulation 347 or Appendix A.

The slump test involves placing the waste in question in a 30-cm open inverted cone. The cone is removed and the immediate decrease (slump) in the height of the waste material is measured. If the material slumps so that the original height is reduced by 15 cm or more, the waste is a liquid. Please refer to Appendix A or Regulation 347 for further details.

For LIW, the **SQE is 25 litres per month**. If you generate 25 or more litres in a one-month period, or accumulate 25 or more litres at your site over any period, the SQE does not apply, and you are required to register the LIW.

If you generate a LIW, you are required to specify the following information on the GRR:

- **Waste characterization** - Liquid industrial waste (L)
- **Waste Class** – Select the three-digit waste class number from Appendix B beside the listing that best describes your waste
- **Waste Number** - Add the letter “L” to the waste class number to specify the above waste characterization (e.g., 121L)
- **Hazardous Waste Number** – Not Applicable.

LIW is not subject to LDR requirements. LIW exemptions are discussed in 3.2.1.1 of the manual. These exemptions are listed in the definition of LIW in Section 1 of Regulation 347.

3.6 LDR and Other Regulatory Requirements

Once you have characterized your waste and determined that it must be registered with the Ministry, you also need to determine if Ontario’s land disposal restrictions apply. How you register your subject wastes (e.g., characteristic waste) depends on whether the land disposal treatment requirements apply, and whether you must provide additional information during the registration process.

The flowchart in Figure 3.4 will quickly help you to determine if you need to identify the waste as an LDR waste when registering. Please note that Figure 3.4 does not deal with MHSW depots. If your facility is a MHSW depot, you should refer to 5.5.2 of this manual and section 6.3 of the handbook for more information. A similar but more detailed flowchart is included in 4.1.2 of the manual, and this flowchart includes the special situation of MHSW depots.

Figure 3.4 will help you determine whether the LDR requirements apply, and then direct you either to Figure 3.5 (waste not subject to the LDR program) or Figure 3.6 (waste that is subject to the LDR program). Figures 3.5 and 3.6 are provided to help you identify the registration and other regulatory requirements for your waste. In some cases, you may determine that your waste does not need to be registered (e.g., for characteristic wastes processed on-site, registration is not required if both the processed waste and residual are not subject wastes). Please note that processing does not include disposal (e.g., OWRA treatment, incineration, waste-derived fuel), nor does it include mixing, blending or bulking that does not result in any treatment of the waste.

Once you have identified which waste streams need to be registered, 3.7 of this manual provides information to help you determine the appropriate waste class, which is needed when you are registering your waste. Please see 6.1 of this manual for further information on managing your hazardous wastes and the regulatory requirements associated with different waste management methods.

3.7 Determining the Appropriate Waste Class for the Generator's Waste Stream

In Ontario, the waste class is a three-digit number. Each number is assigned to a generic waste description that is used to classify the type of waste being managed. Ontario waste classes are a vital component of waste generator registration and manifesting. The waste classes are included in a C of A for waste carriers or receivers, to identify the waste streams they are permitted to handle or manage. The various waste classes can be found in Appendix B of this manual.

A very large number of waste streams are generated in Ontario each year. However, the Ministry has consolidated these streams into a total of 53 waste classes. These waste classes are divided into three major categories: inorganic wastes, organic wastes and other wastes. In turn, these three major categories are further subdivided into minor groups that describe the waste types or similar waste groupings. Finally, there are three-digit waste classes within each minor group — classes that describe wastes that are similar in composition, physical properties and generation source.

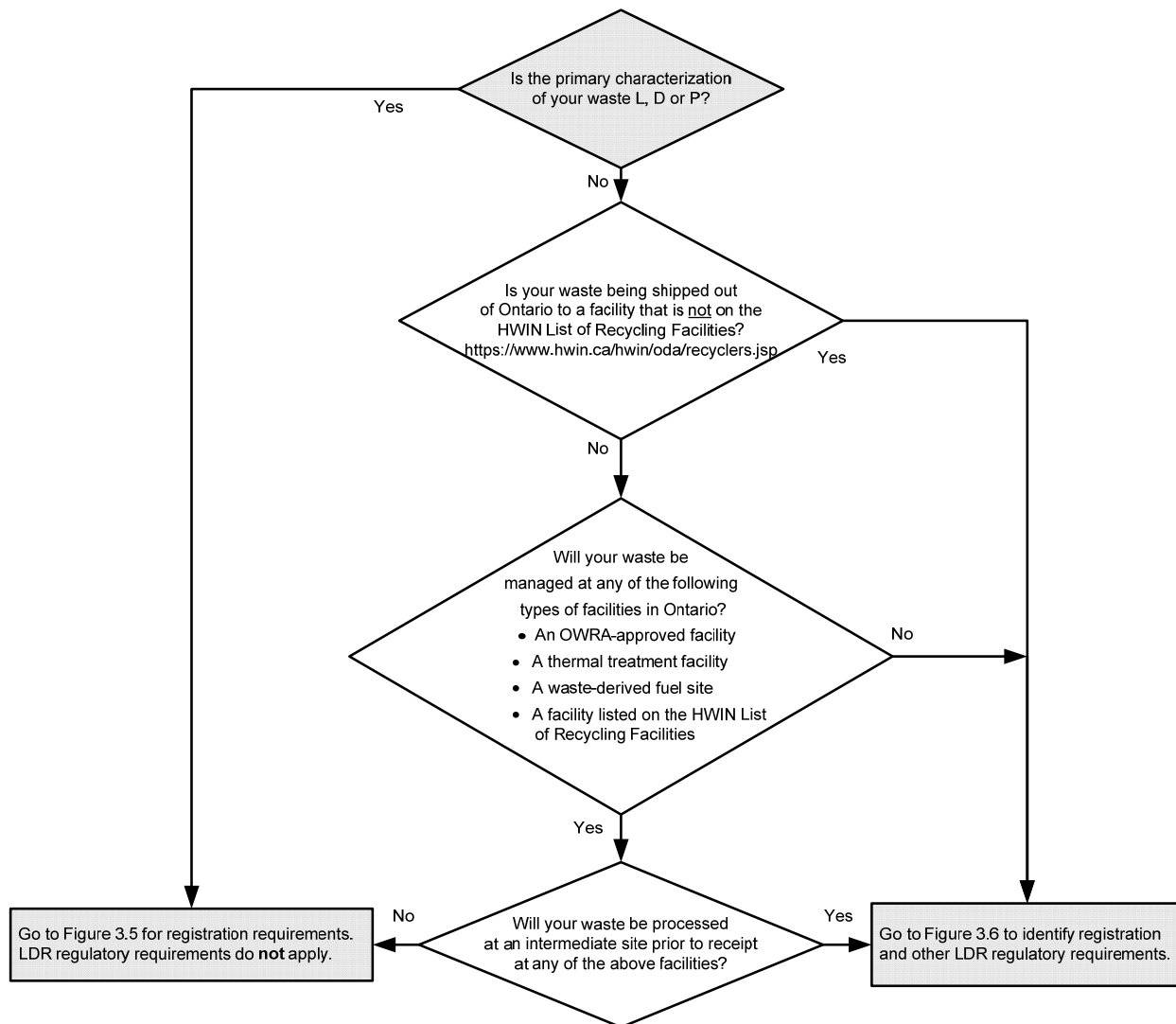
Please note that the waste class is not used to indicate the hazard associated with the waste. However, the hazard associated with the waste may help you to determine the appropriate waste class of the waste(s) in your waste stream.

This section of the manual provides a description of each waste class, along with examples of appropriate waste streams. The examples are intended to guide you in deciding on identifying an appropriate waste class for your waste, but they are not intended to be exhaustive lists of all the potential waste streams included for each waste class. In cases where the examples provided do not clearly represent a given waste stream, you should use the waste description to choose the appropriate waste class.

As a waste generator, you are responsible for assessing the waste(s) you produce and for complying with Ontario's generator registration and related waste management requirements.

Figure 3.4 – Do LDR Regulatory Requirements Apply to Your Waste?

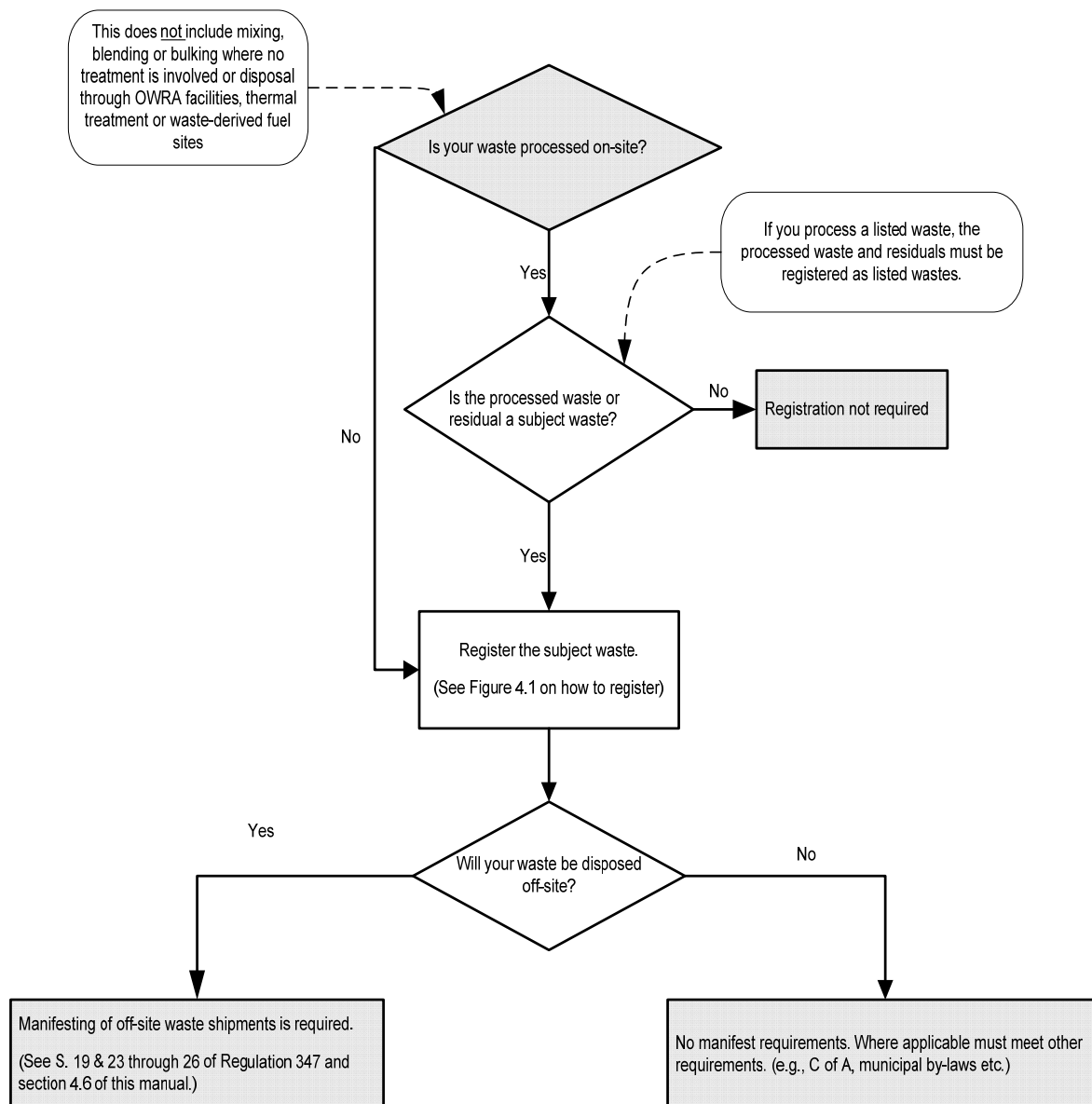
You should have completed the Waste Characterization Flowchart (Figure 3.3) prior to this flowchart



If your facility is a Municipal Hazardous or Special Waste (MHSW) depot and meets the requirements of S. 81 of Regulation 347, this figure does not apply. See S. 81 of Regulation 347, section 5.5.2 of this Registration Manual and section 6.3 of the LDR Handbook.

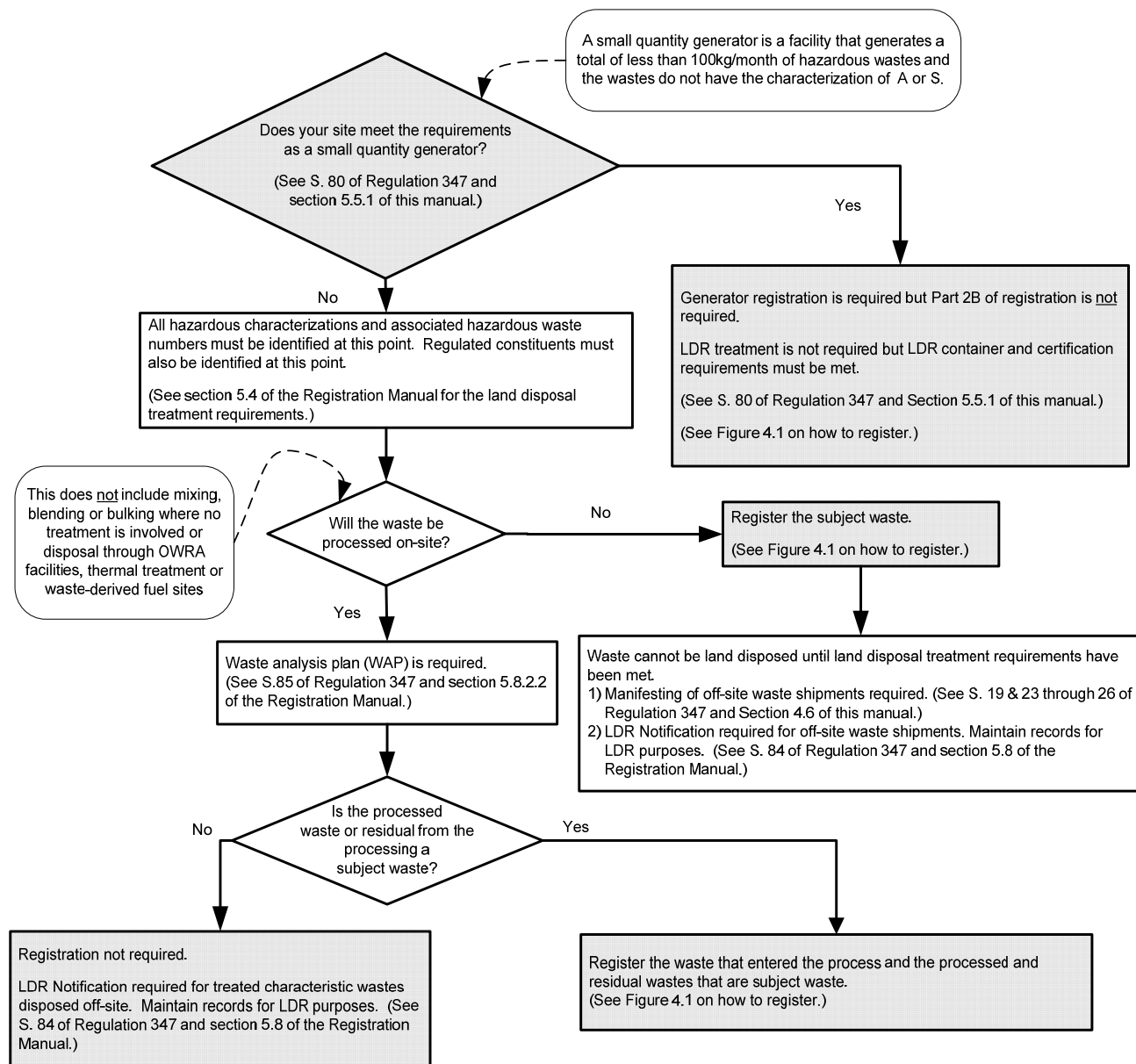
**Figure 3.5 – Registration and Other Regulatory Requirements
Wastes Not Subject to the LDR Program**

You must have completed the waste characterization flowchart (Figure 3.3) for each waste generated at the facility and identified whether the LDR program requirements apply to your waste (Figure 3.4) before completing this flowchart. If the waste is subject to LDR program requirements, go to Figure 3.6.



**Figure 3.6 – Registration and Other Regulatory Requirements
Wastes Subject to the LDR Program**

You must have completed the waste characterization flowchart (Figure 3.3) for each waste generated at the facility and identified whether the LDR program requirements may apply to your waste (Figure 3.4) before completing this flowchart. If your waste is not subject to LDR program requirements, go to Figure 3.5.



3.7.1 Choosing a waste class by major or minor category

When selecting an appropriate waste class, it is often easiest to begin by determining the major category that represents the waste stream, followed by the appropriate minor category, before you select the most reasonable waste class. In some cases, however, this approach may not always result in the selection of the most appropriate waste class. To determine the most appropriate waste description, you can use the minor or major category that best describes the waste. If you have any doubt about the appropriate waste class, ***you should base your waste class selection on the description that best fits your waste.*** The following example illustrates how this approach works.

Example: A spent alkaline battery may be classified as either 122 (alkaline solutions, sludges and residues containing other metals and non-metals, not containing cyanides) or as 146 (other specified inorganic sludges, slurries and solids). If the spent battery is being registered due to the corrosivity that results from high alkalinity, then the appropriate waste class is 122, since this falls under the minor category of alkaline solutions. If the spent battery is not being registered due to its alkaline nature, then the appropriate waste class may be 146.

3.7.2 Choosing a waste class by using the description of the waste stream

In some instances, a specific waste class accurately describes a waste stream, but the waste stream does not appear to belong under the major or minor category. In such cases, you should still choose the waste class that best describes the waste stream, even though the major or minor category may not seem appropriate. ***The waste class that best describes the waste stream should always be chosen.***

Example: Waste oil-based paint is an organic waste stream. However, it is most accurately described by the inorganic waste class 145 (wastes from the use of paints, pigments and coatings).

3.7.3 Choosing a waste class by using the “main component” rule

Where two or more waste classes could reasonably be used to describe the waste stream, the waste class that appears to be the most relevant should be chosen. You may encounter this situation where your waste stream contains components that, if they were separate, would have resulted in you choosing a different waste class for each component.

Similarly, a situation could arise where a waste stream could be described differently according to its individual components, rather than to how it was generated. The applicable waste class is usually selected based on the largest component or group of components that are present in the waste stream that share the same waste class, rather than on the most hazardous contaminant present. If you have any doubt about the appropriate waste class, ***you should base your waste class selection on the description that best fits your waste.***

Example: A waste stream contains 75 per cent crankcase oil, 15 per cent water, five per cent dirt and solids, and five per cent gasoline. The appropriate waste class for this mixture is 252 (waste crankcase oils and lubricants) because the greatest proportion of the waste (75 per cent) falls under this class. Although gasoline likely has the most hazardous waste characterization, waste class 221 (light fuels -

gasoline, kerosene, diesel) would not be chosen because it does not reflect the main component of this waste stream.

Notable exceptions to this "main component" rule are the waste classes 241, 242, 243, 312 and 321, which are special cases and are addressed separately below. Aqueous wastes and contaminated solid wastes can also pose problems when applying the "main component" rule. For example, most acid, alkaline and aqueous salt solutions are composed largely of water. This aqueous composition is an important consideration and should not be disregarded when choosing the appropriate waste class for these types of wastes. Normally, water and non-hazardous solids are disregarded when considering components of a waste, unless these are an integral part of the waste description. These special cases are discussed in the following sections.

3.7.3.1 Special Waste Classes

There are several waste classes that are unique, in that relatively small amounts of a particular contaminant in the waste stream dictate the appropriate waste class. These special waste classes are:

- 241 - halogenated solvents and residues
- 242 - halogenated pesticides and herbicides
- 243 - polychlorinated biphenyls (PCBs)
- 312 - pathological wastes
- 321 - wastes from the manufacture of explosives and detonation products.

Waste class 241 (halogenated solvents and residues) should be selected whenever a waste stream contains a minimum of two per cent of halogenated organic materials by weight.

Waste class 242 (halogenated pesticides and herbicides) should be used whenever a waste stream is contaminated with halogenated pesticides and herbicides at a level great enough that its hazardous primary characterization results from the presence of these contaminants.

Waste classes 243 and 312 are similar, in that they must both be selected based on the primary characterization of the waste. Any waste that has a primary hazardous characterization identified as PCB waste (D) must also have the associated waste class of 243. The same applies for a primary hazardous characterization of pathological waste (P) and the waste class of 312. The waste numbers 243D and 312P are fixed, and no other waste class may be used with the waste characterizations D and P for PCB and pathological wastes.

A similar situation occurs with waste class 321. Any wastes that are not federally regulated under the *Explosives Act* (Canada), and that result from the manufacture of explosives and detonation products characterized as reactive (this is the Ontario waste characterization for explosive wastes) are automatically classified as 321R. Unlike the situation for 243D and 312P, however, the characterization of reactive can be used in conjunction with other waste streams.

3.7.3.2 Contaminated Solids

Although the "main component" rule can generally be used to determine waste class numbers, one significant area where the rule cannot be easily applied involves solids that are normally non-hazardous, but that have become contaminated, for example, from a spill, leak, deliberate mixing or accident.

Wastes that do not need to be registered, such as non-hazardous solids including soils, sand, rubble, rock, glass and wood do not normally require a waste class number. However, when these non-hazardous solid wastes become contaminated with a subject waste, they may require a waste class number. In such cases, the primary waste characterization of the contaminant that made the material hazardous is used to determine the appropriate waste class.

To determine the waste class for contaminated solids, the degree of contamination is also important. If there is sufficient contamination, the entire waste may have the same primary waste characterization as the contaminant, and may therefore have the same waste class as the contaminant.

Example: Soil becomes contaminated with diesel fuel. The diesel fuel is an ignitable waste (I) identified as waste class 221. If the waste soil is tested and found to be ignitable, it would be classified as an ignitable waste (I). In this case, its waste class should also be 221, like the diesel fuel.

If the primary waste characterization of the solid waste differs from that of its contaminant, waste class 146 (other specified inorganic sludges, slurries and solids) or 270 (other specified organic sludges, slurries and solids) should be used to classify the solid waste. There are several reasons for a difference in primary waste characterization, including situations where a solid that was initially non-hazardous becomes contaminated through some previous exposure to an unknown contaminant.

Example: Soil becomes contaminated with diesel fuel. The diesel fuel is ignitable waste (I) having the waste class 221. If the soil is found to be leachate toxic waste (T) due to the presence of inorganic contaminants in the diesel fuel ignitable waste (I), then it should be identified as waste class 146, which is the general waste class for inorganic solids, because the soil does not share the same characterization as the fuel that contaminated it.

3.7.3.3 Aqueous Wastes

The "main component" rule is also relevant where waste streams contain mostly water. Many of these wastes are appropriately classified using one of the "aqueous waste" classes. These include acid solutions (111-114), alkaline solutions (121-123), aqueous salts (131-135), landfill leachate (149) and inert inorganic wastes (150).

For other wastes that are not specifically included in one of these "aqueous waste" classes, you can apply the "main component" rule to help determine the waste class. However, in these cases, the aqueous portion of the waste should be ignored, and the waste should be classified based on the remaining composition of the waste. Thus an aqueous waste could have the waste class of an organic waste.

Example: An underground gasoline storage tank is contaminated with water. While most of the waste is made up of water, this constituent can be ignored, since it is not a hazardous component. The waste is therefore considered to be waste gasoline, and identified as waste class 221.

3.7.4 Combining Wastes into a Single Waste Stream

To classify your waste stream appropriately, it is important to determine if the various wastes in the stream need to be registered individually as separate waste streams, or if they can be combined and

registered as a single waste stream. This is not always an easy task. Any mixture of wastes, even if they form a multi-phase mixture, must be considered as a single waste stream for registration purposes. At the same time, however, wastes should only be mixed, blended or bulked under certain conditions.

To determine if a waste can be mixed, blended or bulked with other wastes, you must first identify the type of wastes that are being generated. Each waste must be characterized at the point of generation to identify whether it is hazardous, what type of hazardous waste it is, and whether it is subject to the LDR requirements. At this point you can determine whether each of the wastes can be mixed, blended or bulked with any other waste.

When the wastes are physically separate, each waste generated can be considered and managed as an individual waste stream. However, the Ministry recognizes that generators need some flexibility when registering their waste streams, especially when the wastes are generated from the same or similar operations, such as waste lubricants from various machinery and wastewaters from various cleaning/rinsing operations. Such wastes may contain similar (though chemically different) components, and can reasonably be considered as one waste stream and mixed together. However, mixing similar wastes for the purpose of classification should not be confused with mixing them for the purposes of treatment or dilution.

Here are some considerations that can help you determine when wastes may be mixed, blended or bulked or may be separately managed:

- Do the wastes have the same waste class?
- Are the waste characterizations the same for each waste?
- Are the composition and physical state of the wastes similar?
- Can the wastes be managed using the same processing or disposal method?
- Have the wastes been generated from similar operations?

If the answer to any of the first four considerations above was “NO,” it probably means that the waste streams should not be mixed. Please see 6.1 of the manual for more information about on-site processing of waste and mixing restrictions. A review of the mixing restrictions is particularly important for generators that have waste that will be land disposed.

3.7.5 Lab Packs

“Lab packs” represent something of a special situation that does not follow any of the “standard” waste classification rules. The term “lab pack” was originally applied to small quantities of miscellaneous chemicals that were generated in a laboratory. Today, lab packs involve registering multiple wastes that are packaged together — using only two waste classes — 148 and 263. These waste classes are used for all lab-packed wastes, even though individual wastes in the lab pack may be more appropriately registered with other waste classes.

To use the lab pack designation, each of the wastes must be kept segregated in its own separate container inside the lab pack. These individual wastes are then “over-packed” and shipped for disposal. Individual wastes should not be bulked before disposal, both for safety reasons and because mixing may not be permitted, due to restrictions on mixing of hazardous wastes with other wastes or materials (please see 6.1 of the manual for more details).

The original intent of lab packs was to reduce the administrative effort and time required to register and manifest a multitude of wastes whose total quantity was relatively small. The use of lab packs has since been expanded to include larger quantities of each waste stream, and to accommodate situations other than those found in laboratories — such as plant closings, inventory clean-ups, research and development areas, and municipal hazardous or special waste collections. Any situation where many chemicals need to be registered but are only present in relatively small quantities may warrant the use of the “lab pack” registration.

When registering and shipping lab packs, the waste characterization used should represent the “worst” waste that is included in the lab pack (i.e., the first waste characterization identified when following the waste characterization flowchart, Figure 3.3). For example, a lab pack may contain individual containers of hazardous wastes with waste characterizations such as I, B, C, T, and A. In this case, the lab packed waste would be registered with a waste characterization of “A” since this is the first waste characterization identified in the flowchart.

Generators must be aware of restrictions that apply to larger quantities of specific waste streams or larger total lab packs shipped for disposal. In particular, quantity and waste type restrictions apply to small quantity generators whose waste is subject to land disposal restrictions.

Lab Packs and Generators with Small Quantity Exempt (SQE) waste

In general, small quantity exempt (SQE) generators are not required to register or manifest their waste. However, if a generator uses a lab pack for SQE waste, the Ministry recommends that the generator register and classify the lab packs using waste classes 148 or 263. The registration should include the worst waste characterization for the wastes that are included in the lab pack, and the waste should be manifested on shipment to a certified carrier and receiver. In Part 2A of the GRR, the generator should enter the hazardous waste number that is appropriate for the most hazardous waste in the lab pack.

Lab Packs and Small Quantity Generators (SQGs)

Lab packs that come from a small quantity generator (SQG) and also meet the requirements of Section 80 of Regulation 347 (a properly labelled, sealed container) are not subject to LDR treatment requirements. In such cases, the Ministry recommends that generators register and classify the lab pack as 148 or 263, identifying the worst waste characterization for the wastes in the lab pack and manifesting it on shipment. Since the SQG exemption from meeting the LDR treatment standards does not apply to acute hazardous waste chemicals or severely toxic wastes, these wastes cannot be added to the lab pack, and must be dealt with separately. In Part 2A of the GRR, generators should enter the hazardous waste number that is appropriate for the most hazardous waste in the lab pack.

Lab Packs and Large Quantity Generators

Generators that have wastes that are subject to LDR, but do not meet the quantity requirements for Section 80 SQG provisions, or that have acute hazardous waste chemicals or severely toxic wastes, may still use lab packs to package their wastes. However, these lab-packed wastes are subject to all LDR requirements. Those requirements include reporting the hazardous waste number for each waste in the lab pack in Part 2B (the LDR notification form) of the GRR as primary and additional characterizations. Lab packs may be registered and classified as 148A, 263A or 242S, and manifested on shipment. Generators must also add the applicable regulated constituent for each hazardous waste placed in the lab pack.

Please note that providing the information requested in Part 2B of the GRR is a one-time notification requirement. Updates will be required if additional waste with different hazardous waste numbers are placed in the lab pack. For generators, the advantage of using lab packs is that one waste stream can be

registered for all the different wastes, rather registering and filling out Part 2A for each separate waste stream.

Lab Packs that are not Land Disposed

For lab packs that will not be land disposed, the lab packs may be registered and classified as 148A or 263A, and manifested on shipment. In Part 2A of the GRR, generators should enter the hazardous waste number appropriate for the most hazardous waste in the pack.

3.8 Determining Waste Streams at Waste Receiving Sites

Determining and registering waste classes for waste streams is handled somewhat differently at waste receiving facilities such as waste transfer stations, waste processing sites and MHSW depots than at the facility where the wastes were originally generated. Since the receiving facilities can handle such a wide variety of wastes, and since their list of registered waste streams can become somewhat lengthy, a broader definition of "waste stream" may be used in accordance with the facility's C of A. While the receiving site still needs to register for each waste stream it accepts, the description of each waste stream can be more generic, allowing several different incoming waste streams with the same waste class to be included under the same outgoing waste stream registration.

For example, a facility may receive a number of different wastes, all identified by the waste class 113. Although these wastes may be from different processes at different facilities, the wastes may be bulked together and processed, or shipped off-site as a single waste stream, provided that they all fit within the 113 waste class and have similar characterizations, composition and treatment or disposal requirements.

For receiving facilities, an important consideration when you are registering waste streams is to determine if the wastes are compatible, both chemically and in terms of the required treatment method. Where wastes are chemically compatible, share treatment requirements, and have the same waste class, you may register them as a single waste stream. If the wastes have different waste classes, they can only be mixed and registered as a single waste stream if this is specifically allowed for those waste streams through your facility's C of A.

Restrictions on the mixing, blending, bulking and intermingling of hazardous wastes with other wastes or materials became effective in March 2006. As a result, the C of A for waste disposal sites and waste transportation systems must specifically authorize these operations to mix hazardous wastes with any other waste or material.

Another consideration for receiving facilities is the ability to use special consolidated waste stream classifications. The use of these special waste classes by waste receiving sites recognizes that certain waste streams may be routinely bulked or blended together, either for processing or to improve handling efficiencies, before the waste is shipped off-site for common treatment or disposal. The following four waste classes have been created to allow for such waste bulking: 254, 270, 281 and 282. Please note that the ability to bulk different waste streams must be recognized in the site's C of A.

4 HOW TO COMPLETE AND FILE A GENERATOR REGISTRATION REPORT

Generators of subject waste are required to register every year. If the annual registration is not renewed, it expires on February 15 of the next year. The waste generators may be the original generator, or subsequent generators such as transfer stations and processing facilities. Waste generators are responsible for assessing the waste(s) they produce and for complying with the province's generator registration and associated waste management requirements.

If registration of the hazardous waste is required, the generator must determine if the LDR program requirements apply for each waste stream produced. Section 5 of this manual provides an overview of the LDR program and Appendix I provides additional information on generator registration and LDR reporting requirements. Generators whose waste is subject to the LDR program should also refer to the handbook for additional details. The handbook is available on the Ministry's website at <http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm>.

Once the generator has determined that registration is required and has compiled the necessary information (please see section 3 above of this manual), the required information must be provided to the Ministry. If the waste is subject to LDR, the generator is also responsible for providing specific information to the intended receiver of the waste. In this section of the manual, information is provided to guide generators through the process of completing the GRR, which can be done either electronically, on the Internet, or on paper.

If a generator manages waste off-site, the waste must be registered and manifested for shipment using an approved carrier and receiver. By contrast, if the waste is managed on-site, the facility must register and a C of A may be required (please see 6.1.2 of the manual).

Generators of subject waste are not only required to register their waste generation facilities, but also to pay the annual generator registration fee, as required by the "Minister's Requirement for Hazardous Waste Fees" (please see Appendix E of the manual). Details on calculating and paying the annual registration fee are provided in 4.1.5 of the manual.

HWIN is an on-line generator registration and manifesting system for generators, carriers and receivers of subject waste, which is accessible at <http://www.hwin.ca>. HWIN provides generators of subject waste with a convenient way to handle their annual registration and pay their annual registration fee. HWIN also makes it possible to use electronic manifesting to record and track the movement of subject waste from the generator through to final disposal. In addition, HWIN provides the generator of waste that is subject to LDR requirements with a convenient way of notifying the processor of the waste's LDR requirements.

Generator registration, manifesting and LDR notification requirements may also be completed on paper. A copy of the GRR can be downloaded from the Ministry's hazardous waste Rules and Regulations page, at <http://www.ene.gov.on.ca/envision/land/hazardouswaste.htm>, along with instructions on how to submit the report and pay the generator registration fee. Several examples of completed GRR are provided in Appendix B of the manual.

Generators who choose to submit their GRR on paper are advised to submit it as early as possible in the January 1 to February 15 registration period, to allow the Ministry the additional time needed to process paper registrations. Paper registrations will be processed in the order they are received, and any missing or incomplete information will delay their processing.

This section of the manual provides details on the information required for registration and manifesting. Since there are different procedures and forms used for registering and manifesting, depending on whether the generator is working on-line or on paper, specific “how to” instructions for each method are provided in Appendix B (for registration) and Appendix C (for manifesting).

If you have determined that you are a generator of subject waste (please see 3.1.2 of this manual), you must register your waste generation facility with the Ministry, using the generator registration procedures outlined in this manual. As part of the registration process, you will be creating a site profile that describes your site, the company’s officials and your subject wastes. Your site profile will then become part of your generator registration document.

Please note that you should not attempt to complete the generator registration process until you have followed the flowchart in 3.5.2 of this manual through to completion.

After initial registration, generators are required to submit a GRR annually between January 1 and February 15. In some cases, changes to the generator’s process or waste stream may require revisions to the site profile, by completing a supplementary generator registration at some point after the initial registration has occurred, and before the next annual registration is due (please see 4.3 of this manual for more details).

The following sections describe the information that generators must provide when registering with the Ministry. Additional information may be required for waste streams that are subject to LDR reporting and notification requirements. Please see Appendix I of the manual for additional information.

4.1 Initial Generator Registration

This part of the manual describes all the information required by the Ministry for generators submitting their initial registration report, with explanations to help generators complete the registration process appropriately. Please note that, during the annual registration renewal process, generators will be asked to confirm the information they originally provided.

4.1.1 Part 1 – Generator Identification

(Generator) Registration Number

Each waste generation facility that registers with the Ministry must have a generator registration number. For Ontario-based generators, the Ministry issues a unique generator registration number upon completion of the initial registration. For waste generation facilities based outside Ontario, the ministry uses the registration or notification number assigned by the facility’s local environmental authority.

Legal Company Name and Company Operating Name

You must register your company’s full legally registered name, as well as the company’s full operating name, if this is different from the legal name, the company’s full operating name.

Mailing Address

You must provide your company’s full mailing address (i.e., street name, number and postal code).

Site Location

You must complete a separate registration with the Ministry for each site where your wastes are generated. The definition of a “site” is provided in Regulation 347, and means one property (including nearby properties that are owned or leased by the same person or company, where passage from one property to the next involves crossing but not traveling along a public highway). The town/city refers to the local municipality (i.e., the city, town, village or township, as opposed to a post office location, county or regional municipality).

For administrative reasons, the Ministry requires you to identify the county where your waste generation facility is located. In this sense, the county means the geographic location, which in Ontario may be designated as a district, county or municipality. The county is a mandatory field on the GRR form, and must be selected from the list below.

Please note that this list of geographic areas is based on the latest information provided to the Ministry of Municipal Affairs and Housing. Generators should select the most appropriate county based on either the current or historical name that best describes the location of their waste generation facility. If you are unsure, please verify the information by contacting municipalities directly to confirm official municipal names.

ALGOMA	KAWARTHA LAKES	PEEL
BRANT	KENORA	PERTH
BRUCE	LAMBTON	PETERBOROUGH
CHATHAM-KENT	LANARK	PRESCOTT & RUSSELL
COCHRANE	LEEDS & GRENVILLE	PRINCE EDWARD
DUFFERIN	LENNOX AND ADDINGTON	RAINY RIVER
DURHAM	MANITOULIN	RENFREW
ELGIN	MIDDLESEX	SIMCOE
ESSEX	MUSKOKA	STORMONT DUNDAS AND GLENGARRY
FRONTENAC	NIAGARA	SUDBURY
GREY	NIPISSING	THUNDER BAY
HALDIMAND	NORFOLK	TIMISKAMING
HALIBURTON	NORTHUMBERLAND	TORONTO
HALTON	OTTAWA	WATERLOO
HAMILTON	OXFORD	WELLINGTON
HASTINGS	PARRY SOUND	YORK
HURON		

Company Official

The company official is the individual who is responsible for managing, or is responsible for staff that manages the hazardous waste and LIW at the generation facility. This official also serves as the HWIN Administrator for the waste generation site. You will need to create a user name and password in order to access the HWIN system online. Each user in the HWIN system must have a unique user name, and if you create a user name that has already been used, the HWIN system will alert you and ask you to choose another user name.

Additional HWIN Administrator

The company official may also delegate HWIN responsibilities to other individuals (i.e., additional HWIN Administrators). For each administrator, you will need to create a user name and password in order to access the HWIN system online.

Contact Person

You need to select the “Company Official” or the “Additional HWIN Administrator” as the contact person for registration purposes. This person should be familiar with all the wastes for which they have management responsibility, should be able to answer technical questions relating to the GRR, and also be able to provide assistance in the event of an emergency. HWIN requires you to designate one person as the contact person who will receive all HWIN e-mail messages.

North American Industry Classification System (NAICS) Codes

For administrative reasons, it is necessary to identify the industry sectors that the generators represent, and the Ministry uses the North American Industry Classification System (NAICS) for this purpose. Accordingly, you should enter the six-digit NAICS code for the facility at the site location identified. While more than one NAICS code may apply to a particular facility, generators should enter the primary NAICS code during registration and, if necessary, up to two additional codes. A list of NAICS codes currently in use by Statistics Canada is included in Appendix B of this manual. You can also use the link provided on the HWIN website for a list of NAICS codes (<https://www.hwin.ca/hwin/NAICS1.html>).

For a complete description of NAICS codes and further information, visit Statistics Canada’s website at: <http://www.statcan.ca/english/Subjects/Standard/naics/2002/naics02-menu.htm>

Ontario Liquid Industrial/Hazardous Waste Receiver Sites

Transfer and processing facilities that are approved to receive subject waste and then ship it off-site are required to register as generators. If you are such a facility you must indicate “Yes” during the registration process and provide your C of A number. Most generators in Ontario are not approved as waste receivers. Accordingly, the Ministry will review your registration to confirm that the information is correct.

On-site Management

As part of the registration process, you must indicate if your company stores, processes or disposes of subject waste on-site. Please note that on-site management does not include temporary storage or the blending, bulking or mixing of wastes. Generators should only enter “Yes” on this part of the registration form if they will be registering a waste as stored (i.e., PCB waste, or waste that is being stored in accordance with a C of A), processed (i.e., treated) or disposed of (e.g., incinerated or landfilled) on-site.

Municipal Hazardous or Special Waste (MHSW) Depots and Contaminated Site Remediation

MHSW depots and contaminated sites that generate remediation waste need to be registered, and any subject waste that leaves the site needs to be manifested. However, MHSW depots and contaminated sites that generate remediation waste are not required to pay the annual generator registration fee. Most generators in Ontario are not an operator of an MHSW depot or contaminated site, and as such, the Ministry will review your registration to confirm that the provided information is correct.

MHSW Depots

If your site is an MHSW (formerly HHW) depot, and is operated by or exclusively for a municipality or the Crown, please contact the HWIN Help Desk at 1-866-494-6663 to obtain the generator registration fee exemption. The owner or operator of the MHSW depots should be prepared to provide a copy of their C of A (Waste Disposal Site) showing approval to operate the depot at the specific site address.

Contaminated Site Remediation

If the site is a contaminated Ontario site and all your waste results from activities that were carried on at the site for the purpose of remediating contaminated soil or other contaminated materials located on, in, or under the site, please contact the Help Desk to obtain the generator registration fee exemption. In some cases, a site that generates subject waste as part of its normal operations may also be a contaminated site. In this case, you should use your regular generator registration number on the manifest when shipping the wastes from the operation, and obtain a separate generator registration number with the approved Contaminated Site status for use on the manifest when shipping the remediation wastes off-site.

The owner or operator of the site should be prepared to provide supporting documentation that shows the site address, reasons for remediation, sources of contamination, types of wastes generated, expected duration of project, etc. The Ministry has accepted a Phase II or Phase III environmental assessment report, a consultant's proposal or an MOE Order to clean up the site.

4.1.2 Part 2A – Waste Identification (Active Waste Classes)

For each subject waste generated at the waste generation facility, you must identify if the waste is being stored or processed on-site, disposed of on-site or shipped off-site. Where the waste is processed on-site, you may need to register the wastes that entered the process, the processed waste and any residuals from the processing. How the waste is registered depends on its waste characterization, whether it is to be land disposed, and whether it has received any treatment. Figures 3.5 or 3.6 of the manual will help you to determine if you need to register your waste. Figure 4.1 provides a flowchart to help you to identify how each of your subject wastes should be registered.

Waste Class

Provide the waste class that you identified during your waste characterization (please see 3.7 of the manual). The Ontario waste class is a three-digit number (e.g., 263, 121, etc.).

Primary Characterization

In this section of the registration document, you must enter the primary characterization that you identified when you characterized your waste (please see 3.4 of the manual). The primary characterization is the first characterization of a waste found when you follow the waste characterization flowchart (e.g., A, B, C, etc.). If you are registering a de-characterized waste that will be land disposed, and the waste is no longer hazardous but remains subject waste (i.e., regulated constituents in Schedule 6 of Regulation 347 still require treatment before land disposal), the primary characterization is U.

Waste Number

The waste number consists of the three-digit number (Ontario waste class) plus a single letter (primary waste characterization), (e.g., 263A, 121L, etc.).

Description of Waste (Waste Type)

You must provide a general description of your waste and, where appropriate, include details such as the colour, principal components, contaminants and contaminant concentrations in the waste.

Description of Generating Process

As part of the registration process, the Ministry requires you to provide a general description of the generating process for the subject waste. Where applicable, you should include details such as a generic process name, feed materials and products. If your waste is generated by pollution control equipment, you should provide a description of the process or operation that generated the discharge or emission.

Hazardous Waste Number

From the schedules provided in Appendix A of this manual, you will need to obtain the primary hazardous waste number that best describes your waste stream. This is the entry in the first column of each schedule (e.g., F007 for spent cyanide plating bath solution from electroplating operations). The hazardous waste number must be entered for all wastes with a primary characterization other than D, P or L. If your waste has more than one characterization, you should use the hazardous waste number associated with the primary characterization. If you are registering a de-characterized waste, you should use the original hazardous waste number for the untreated waste.

Physical State

Describe the physical state of the waste stream (i.e., either solid, liquid or gaseous).

Specific Gravity

If the physical state of the waste is liquid, you must provide the specific gravity of the waste stream.

On-Site Waste Management

Registration of waste streams under on-site waste management activities must be completed only if you are managing the subject waste on-site and your waste generation facility is located in Ontario. On-site waste management activities include on-site storage, processing and disposal of a waste stream — all at the location where the waste was generated. These activities have been divided into two groups to facilitate generator registration and fee payments: 1) On-site Processing and Storage, and 2) On-site Disposal. Please note that a waste stream may need to be registered under both groups of activities (e.g., waste is processed on-site and also disposed of on-site); or registered as an on-site activity and as an off-site activity (e.g., processing takes place on-site and disposal takes place off-site).

On-site Processing and Storage

A waste stream that is managed on-site using any of the following activities must be registered under On-site Processing and Storage:

1. Storage (PCBs, or subject waste in accordance with a C of A)
2. Processing (Part V approved)
3. Processing (Part V exempt, pursuant to Section 17.1 of Regulation 347).

Generators who store PCB waste and subject waste that requires a C of A for storage (i.e., storage for more than two years) on-site must register them under On-site Storage. Generators who register stored wastes must provide the PCB storage site approval number or the C of A number that authorizes the storage of the waste.

For subject wastes that are stored on-site for more than 90 days, generators are required to submit a “Notice of the storage of subject waste” to the Ministry, in accordance with the requirements of Section 17.2 of Regulation 347. This form is available on the ministry’s website at www.ene.gov.on.ca. On-site storage of subject waste for less than two years should not be registered as on-site storage, unless a C of A has been issued for storage of the waste. Waste that is temporarily stored on-site should be registered as an off-site waste stream or other on-site waste management activity, as applicable.

Generators who process subject waste on-site must register it under On-site Processing if:

1. The subject waste is processed such that the processed waste remains a subject waste, or
2. The residual from the processing of the waste is a subject waste.

Figure 4.1: How to Complete Part 2 of the Waste Generator Registration Process

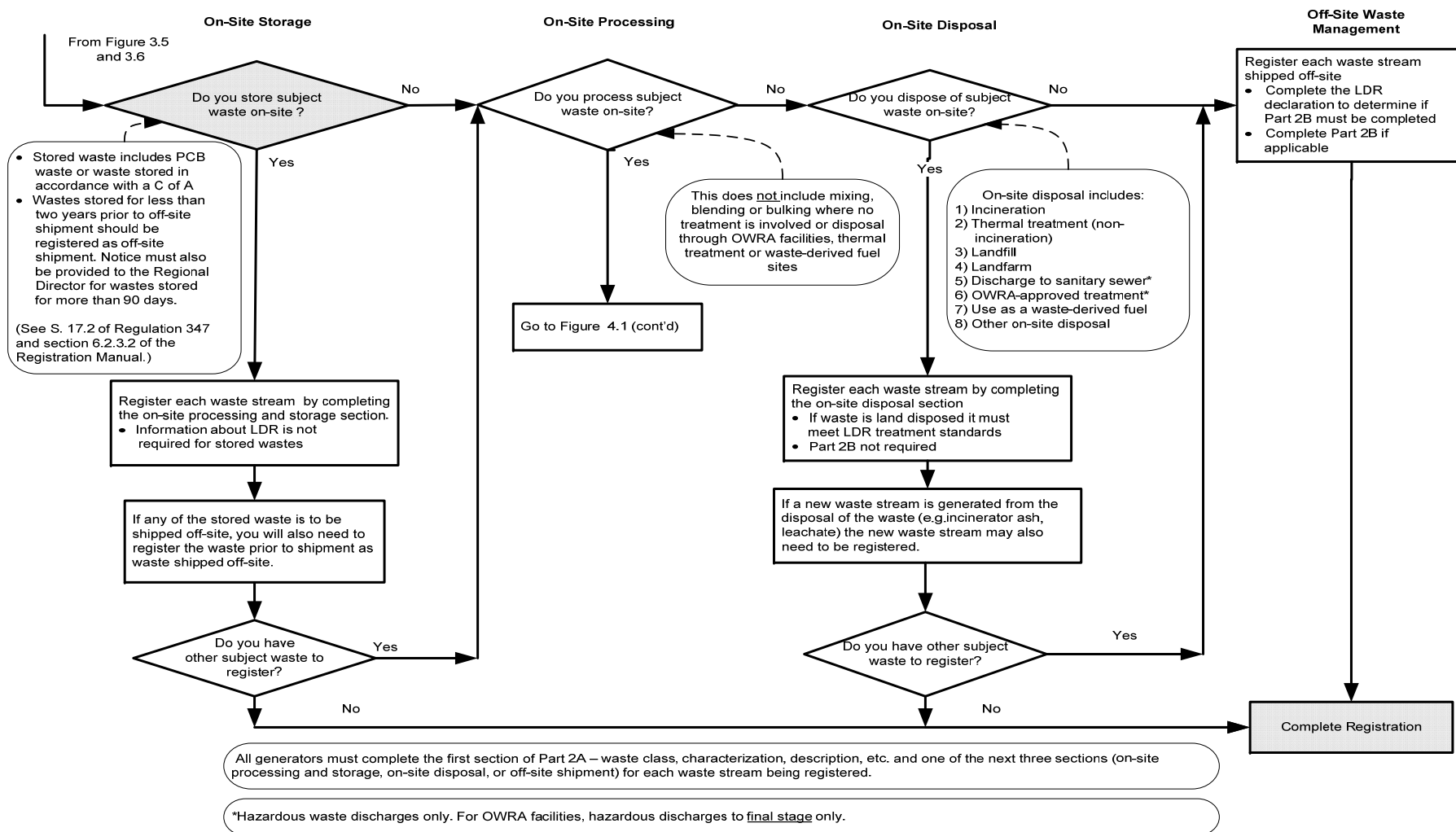
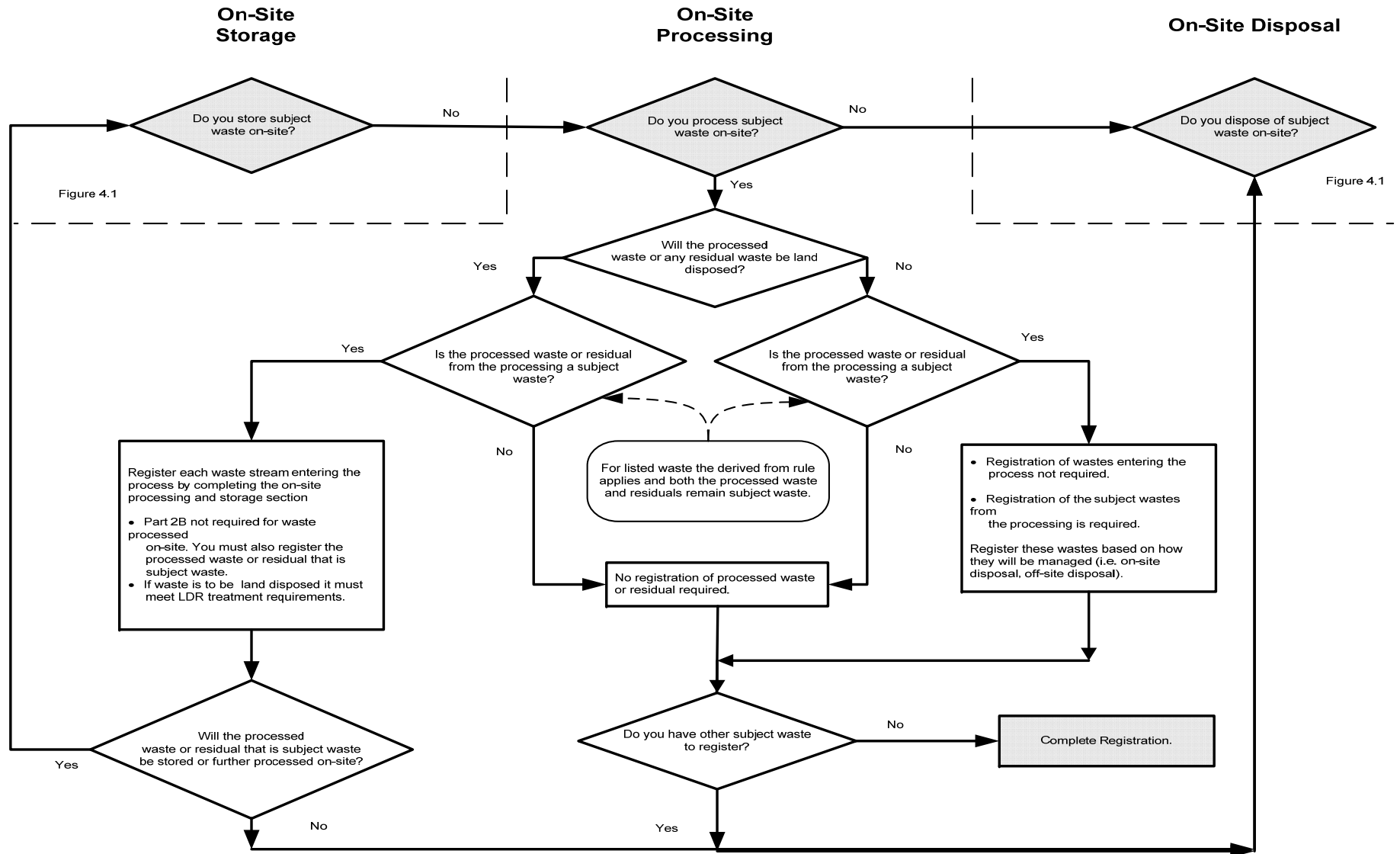


Figure 4.1: How to Complete Part 2 of the Waste Generator Registration Process (cont'd)



Registration of a subject waste is not required if the waste is processed on-site, and as a result of the processing it is no longer a subject waste, and any residual from the processing is not a subject waste.

A subject waste that is processed on-site by any activity that changes the nature of the waste must be registered under On-site Processing. This requirement includes activities such as mixing of different types of waste to carry out treatment (e.g., mixing an acid and a base to effect neutralization), and activities that involve adding other materials to treat the waste (e.g., chemical oxidation). Processing does not include mixing of like wastes where there is no change in the nature of the waste. If subject wastes are mixed in accordance with a C of A and no processing takes place, the mixed waste should not be registered under On-site Processing.

If a C of A is required for on-site processing of a subject waste, the waste must be registered under On-site Processing (please see 6.1.2 of the manual for information about when a C of A is required to process waste on-site). Processing does not include the activities listed under On-site Disposal in the following subsection (e.g., incineration, OWRA facility, etc.).

Generators who process subject waste on-site must identify whether the processing was carried out in accordance with a C of A (Part V approval) or if the processing did not require a C of A in accordance with Section 17.1 of Regulation 347. If a C of A was issued for on-site waste management activities, the generator must provide the C of A number.

Activities that do not need to be registered as on-site waste management activities include on-site waste handling, temporary storage (i.e., where a C of A is not required), bulking of like wastes prior to treatment or disposal, and waste transfer to a waste transportation vehicle.

If either the processed waste or the residual from the waste processing is a subject waste, the generator must register each processed or residual waste stream, according to how it will be managed. If the subject waste is to be shipped off-site or further managed on-site after processing, the generator must add the waste number for the processed waste or residual to each waste stream that was registered under On-site Processing.

The waste number for the processed waste or residual may be the same as the waste number for the waste at the point of generation, or may be different. For example, where more than one waste is processed on-site using the same treatment method, and the resulting processed waste is a subject waste, the generator must:

1. Register each of the waste streams under On-site Processing
2. Register the resulting subject waste, and
3. Add the waste number for the resulting subject waste to all of the waste streams that were registered under On-site Processing.

Generators who process hazardous waste on-site are not required to provide information with respect to the land disposal treatment requirements when they register a waste stream under On-site Processing and Storage. However, this information may be required when a subject waste is registered for off-site shipment. Generators who process listed wastes and characteristic wastes on-site may be subject to LDR requirements, including the requirement for a waste analysis plan. The generator may also be subject to LDR notification requirements pursuant to Section 84 for a waste stream registered under on-site processing, if a characteristic waste was processed to meet the land disposal treatment requirements and will be disposed of off-site (please see 5.8 of the manual).

The actual quantity of waste managed on-site in the previous calendar year and the estimated quantity for the current calendar year must be identified for wastes processed or stored on-site. The tonnage component of the generator registration fee is not charged for wastes that are processed or stored on-site. This fee component is charged only when a hazardous waste is shipped off-site or disposed of on-site. Accordingly, if a characteristic waste is processed on-site so that it is no longer a subject waste, and if the waste is registered as a subject waste being processed on-site, there is no tonnage component in the applicable generator registration fee.

On-site Disposal

A waste stream that is managed on-site using any of the following activities must be registered under On-site Disposal:

1. Incineration
2. Thermal treatment (non-incineration)
3. Landfill
4. Landfarm
5. Discharge to sanitary sewer (hazardous discharges only)
6. OWRA approved on-site treatment (hazardous discharges to final stage only)
7. Use as a waste-derived fuel
8. Other on-site disposal (the generator must identify the disposal method).

If a subject waste is processed on-site prior to on-site disposal, the waste must also be registered under On-site Processing and Storage. Please note that only hazardous waste discharges to sanitary sewers and OWRA-approved treatment facilities (final stage only) must be registered.

If a C of A has been issued for on-site disposal of the waste (e.g., thermal treatment, landfill, etc.), the generator must provide the C of A number. The actual quantity of waste disposed of on-site in the previous calendar year and the estimated quantity for the current calendar year must also be identified. This information is used to calculate the tonnage component of the generator registration fee for on-site disposal of hazardous waste.

If the waste stream that is being disposed of on-site was a listed waste or characteristic waste at the point of generation (i.e., all wastes except those with the primary characterizations of L, D and P) and the waste will be land disposed, the generator must confirm that the on-site activities were conducted in accordance with Ontario's LDR requirements (i.e., meeting the land disposal treatment requirements and preparing a waste analysis plan).

There may be cases where a residual resulting from one of the disposal practices above is a subject waste (e.g., residue from the incineration of hazardous waste or from an OWRA-approved facility) that requires further management, either on- or off-site. In such cases, if a subject waste is to be shipped off-site or further processed or disposed of on-site, it must be separately registered as a new waste stream. However, since the tonnage component of the generator registration fee has already been applied to the waste, the Ministry will not apply the tonnage component of the fee to the off-site shipment. If this is the case at your facility, please contact the HWIN Help Desk for assistance.

Off-site Waste Management

This section of the GRR must be completed for all waste streams that will be shipped off-site. Generators are required to respond to a series of questions to determine if they must complete Part 2B of generator registration (LDR notification form) for a particular waste stream. The generator may determine by answering these questions that Part 2B does not need to be completed for the waste stream. If so,

additional information (e.g., C of A number) should be provided where indicated. The “Declaration regarding wastes that are subject to LDR” is not required for wastes that are registered in the on-site modules above. The generator questions that help to determine if the completion of Part 2B is required are provided in flowchart format in Figure 4.2. Written instructions for this declaration can also be found in Appendix J of the manual.

All generators who produce a listed waste or characteristic waste that will be land disposed are required to fill in the LDR portion of the GRR (Part 2B). Part 2B has been designed so that it not only meets generator registration requirements, but can also be provided by the generator to the receiver to meet the notification requirements of Section 84 of Regulation 347.

Generators are responsible for identifying whether or not their waste is subject to the LDR requirements when they register each waste stream. Although a generator may ask the receiver or carrier of the waste how the waste will be managed and whether it will be land disposed, it is the generator who must determine whether the LDR requirements apply. If generators are uncertain about whether the LDR requirements apply, they should complete Part 2B of the GRR (LDR notification form) and forward the information to the receiver of the waste.

4.1.3 Part 2B – Land Disposal Restrictions Notification Form

Generators who produce subject waste that is listed waste or characteristic waste that will be shipped off-site for land disposal must complete the LDR notification form (Part 2B of the GRR). Please see Appendix I of the manual for additional information.

A separate Part 2B form must be completed for each subject waste stream that is generated at the facility and will be land disposed, or where the final disposition of the waste is unknown. Once the Part 2B form has been completed, it is the generator’s responsibility to provide the information in the form to the initial receiver of the waste, in accordance with Section 84 of Regulation 347. The LDR notification requirement can be met by providing a copy of the Part 2B form to the receiver, or by providing the required information in a different format.

Several examples of completed Part 2B paper registration forms are included in Appendix B of the manual. Generators may also find it helpful to review these examples before completing their generator registration documents electronically in HWIN.

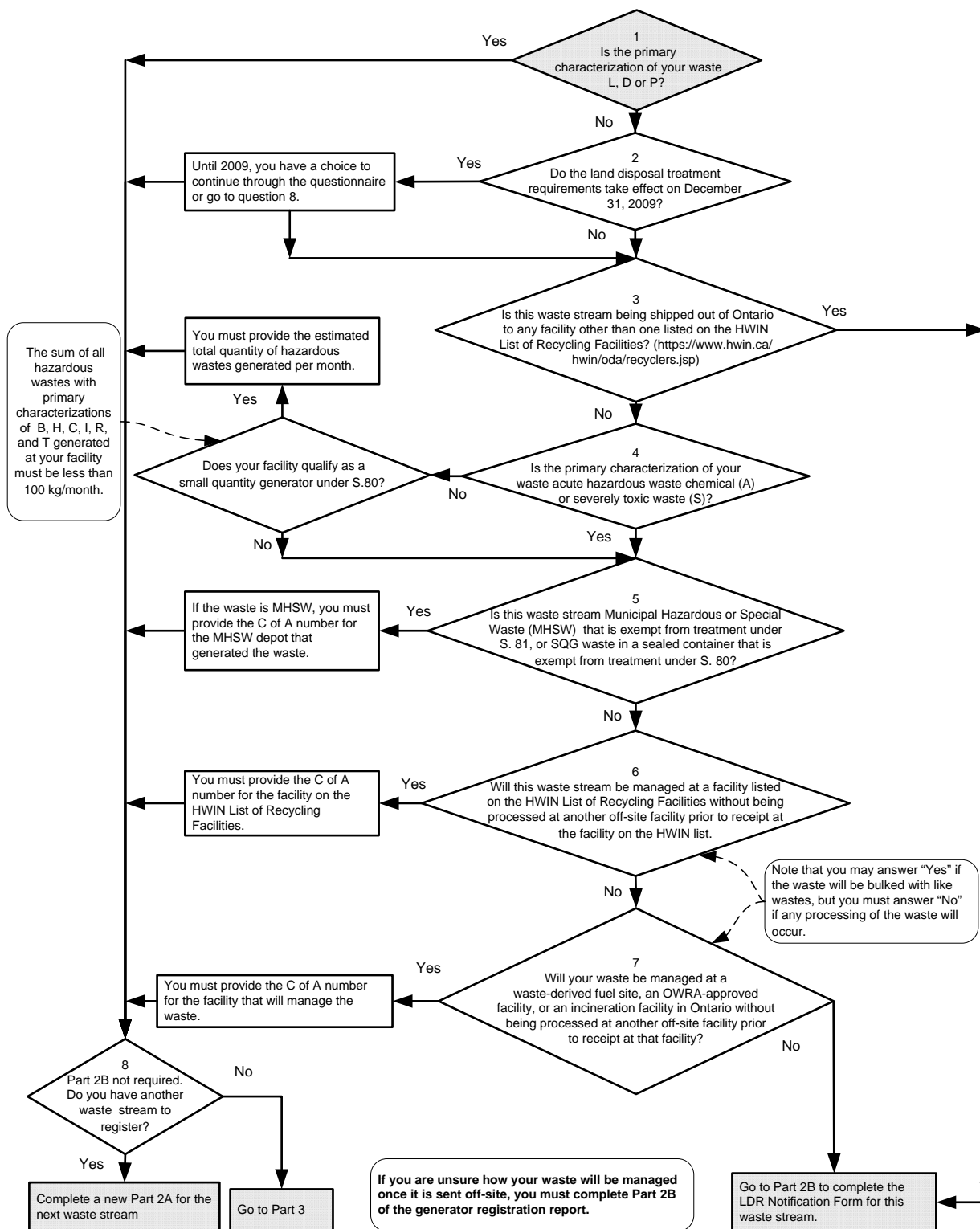
Aqueous or Non-aqueous Waste

Aqueous wastes are wastes that contain less than one per cent total organic carbon by weight, and less than one per cent total suspended solids by weight. Non-aqueous wastes are wastes that do not meet the criteria for aqueous wastes. You must identify if your waste is aqueous or non-aqueous.

Alternate Treatment Standards

For wastes that are soil or soil mixtures or debris or debris mixtures, generators may choose to meet the alternate treatment standards. If this is your preferred option, you must indicate that alternate treatment standards apply, and indicate whether your waste is a soil or a soil mixture or a debris or a debris mixture. If you indicate that your waste is a debris or a debris mixture, you must indicate what type of debris or debris mixture it is. The types of debris include glass, metal, plastic, rubber, brick, cloth, concrete, paper, pavement, rock, and wood. If the waste is a mixture of debris types, you must list all the types of debris in the mixture.

Figure 4.2 – Declaration of Waste Streams Subject to Land Disposal Restrictions



Hazardous Waste Numbers

When characterizing your waste stream (please see 3 above of this manual) you may have identified multiple characterizations (i.e., the waste may have more than one waste characterization, for example H and T). For each waste characterization, you must enter the following information:

- Hazardous waste number(s)
- For each hazardous waste number, the generic name and associated CAS number if the waste is listed in Part A or Part B of Schedules 2, Schedule 3, or Schedule 5 of Regulation 347; or a description of the waste if the waste is listed in Schedule 1 of Regulation 347, and
- The treatment sub-category (if applicable).

If you are completing generator registration through the HWIN system, this information will be generated as much as possible from the hazardous waste number(s) entered. Any waste generation facility that mixes wastes that are subject to LDR in accordance with Regulation 347 or applicable C of A, must identify all hazardous waste numbers for each individual waste that entered the combined waste stream.

Some facilities (e.g., transfer stations) bulk similar wastes together that are subject to LDR, and send the bulked waste to a receiver. These facilities must report in the Part 2B form for their operation all of the hazardous waste numbers from the incoming LDR notification forms that they received from generators for each of the wastes that are bulked together.

Similarly, a processing facility that mixes LDR wastes before treatment to meet land disposal treatment requirements must report in its LDR notification form all hazardous waste numbers from the incoming LDR notification forms that were received from generators for the wastes that were mixed.

Failure to report all hazardous waste numbers from the incoming wastes when registering a waste that is made up of mixed, blended, bulked, or processed wastes could constitute dilution (please see 6.1 of the manual for more information on when like wastes can be bulked).

Examples of completed Part 2B paper forms for listed waste and characteristic waste, with both numerical and technology-based standards, and for the use of alternate treatment standards, are provided in Appendix B.

Regulated Constituents

Generators must provide additional information in this section of the Part 2B form for all listed wastes in Schedule 1, Part A or Part B of Schedule 2 and Schedule 3 and for all characteristic wastes in Schedule 5. For each hazardous waste number, you must list all regulated constituents (i.e., each constituent with a treatment standard) that are known or expected to be present at concentrations at or above the standard at the point of generation. For most characteristic wastes, beginning December 31, 2009, this requirement includes all regulated constituents listed in Schedule 6 of Regulation 347 that may require treatment. You must also specify the type of characteristic wastes (e.g., corrosivity, ignitability, etc.) in this section.

If you are registering through the HWIN system, the system will provide you with a drop-down menu from which you can select the regulated constituents. The choices in each drop-down menu are based on the hazardous waste number(s) you have already entered.

For listed wastes, generators may be registering either a treated or untreated waste. Accordingly, you must list all of the regulated constituents with concentrations at or above the treatment requirements that are or were present in the waste before treatment.

For characteristic wastes, generators may be registering an untreated waste, a waste that has been treated to address only its hazardous characteristic, or a waste that has been treated to address both the hazardous characteristic and all other regulated constituents in Schedule 6. In all cases, you are required to list all of the regulated constituents with concentrations at or above the treatment requirements that are or were present in the waste before treatment, as well as the type of characteristic(s) that required treatment.

If wastes have been bulked, blended, or mixed before processing, the regulated constituents from all the incoming wastes must be identified for the resulting waste that is being shipped off-site — even if the bulking, blending or mixing process diluted any of the constituent concentrations below the treatment standard.

If the waste generation facility is a transfer station or processing facility, and all regulated constituents will be monitored to ensure that the treatment standards have been met, you may enter “all” under the heading of “regulated constituents” for each hazardous waste number. If a processing facility partially treats LDR waste, then you cannot enter “all” in this field, since you are required to identify the regulated constituents that have been treated and those that still require treatment individually.

The final column in this section of the Part 2B form enables the generator to identify which regulated constituents in the waste have been treated to meet the land disposal treatment requirement. You must enter “Yes” or “No” for each constituent or characteristic that is listed.

Variance from a Treatment Standard

Most generators will not need to complete this part of the LDR notification form, which must be completed only if the Ministry has issued a variance for a particular waste stream. Variances are explained in 5.9 of this manual. Approval for a variance from a treatment standard may be provided through a C of A for the generator or receiver of the waste, through a Director’s letter of equivalent treatment, or through a regulatory exemption.

If the Ministry has granted a variance for the waste stream, the generator must identify the approval number for the variance that amended the treatment standard. If the variance is time-limited, the time limits of the variance must also be provided. Similarly, if an equivalent method of treatment has been approved, the approved treatment method must be identified. The generator should also check to ensure that the receiver has a copy of the variance.

Confirmation of Treatment Status

To identify the treatment status of the waste stream that will be shipped off-site, generators should choose the appropriate statement from the following list:

For characteristic wastes, choose one of the following:

- a) Waste has been fully treated to remove the hazardous characteristic and meets the underlying hazardous constituent (UHC) standards in Schedule 6
- b) Waste has been partially treated for the regulated constituents identified above and will be shipped off-site for further treatment
- c) Waste has been treated to remove the hazardous characteristic, but requires further treatment to meet the underlying hazardous constituent (UHC) standards in Schedule 6 for UHC(s) identified above
- d) Waste is being sent off-site to meet the land disposal treatment requirements for the regulated constituents identified above
- e) Waste is being shipped out of Ontario.

For listed wastes, mixtures that include a listed waste, or waste derived from a listed waste, choose one of the following:

- a) Waste has been partially treated for the regulated constituents identified above and will be shipped off-site for further treatment
- b) Waste has been treated and meets the land disposal treatment requirements for regulated constituents identified above
- c) Waste has no regulated constituents present or all regulated constituents are already below the land disposal treatment requirements
- d) Waste is being sent off-site to meet the land disposal treatment requirements for the regulated constituents identified above
- e) Waste is being shipped out of Ontario.

Although completion of Part 2B meets generator registration requirements for LDR wastes, the information in Part 2B must be sent to the facility that will receive the waste, where notification is required for subject wastes (please see Section 5.8 of the manual for more information on LDR notification requirements).

4.1.4 Part 3 – Request for Information

The Ministry gathers information about the amount of hazardous waste in Ontario that is recycled—and particularly hazardous waste that is not tracked through the generator registration process. However, reporting the amount of hazardous waste you recycle (i.e., waste that is exempt through subsection 3 (2) of Regulation 347) is voluntary, and not a regulatory requirement. In Part 3 of the GRR, the Ministry therefore asks you to report the type of hazardous waste that you generate (description) every year and the amount of this waste that is recycled. Please do not include information in Part 3 on the quantities of non-hazardous waste that are recycled.

An example of waste recycling that could be reported in this part of the registration form is pickle liquor that is transferred to a sewage works subject to the OWRA for use as a treatment chemical. If this waste is managed according to the criteria of subparagraph 6.i. of subsection 3 (2) of Regulation 347, registration and manifesting is not required. However, the Ministry would still like to know how much of this waste is being recycled every year.

4.1.5 Part 4 - Payment of the Generator Registration Fee

Generators of subject waste are required to register their waste generation facilities and pay the annual generator registration fee, as required by the “Minister's Requirement for Hazardous Waste Fees” (please see Appendix E). The details of how to calculate and pay the appropriate fee are outlined in this section of the manual.

When subject waste is generated at a facility, the generator must register. Generators are required to register every year and the registration remains valid until February 15 of the next year. Once a facility has been registered for the first time, annual registration is required for every year in which subject waste is generated. Annual registration takes place between January 1 and February 15. Please see 3.1.3 of the manual for a discussion of when a waste is generated.

For each annual GRR, including the initial report, the registration fee is calculated by adding three components together:

1. A \$50 base fee
2. A fee of \$5 per manifest used during the calendar year in which the report is submitted (this is called the manifest component)
3. A fee of \$10 per tonne of hazardous waste generated during the calendar year (this is called the tonnage component).

All sites that generate subject waste are required to pay the \$50 base fee on registration, with the following exceptions:

1. MHSW (formally HHW) facilities that are operated by or exclusively for a municipality or the Crown, where the subject wastes being registered are limited to household hazardous or special waste received at the facility
2. Contaminated sites in Ontario, where subject waste resulting from site remediation activities is being registered.

MHSW facilities and contaminated sites are also exempt from the other two fee components. Please note that although they are exempt from paying the registration fee, they are still required to register annually with the Ministry.

The amount a generator is required to pay for the manifest and tonnage components of the registration fee will vary from facility to facility, and a range of payment options is available to accommodate the circumstances of each generator.

The tonnage component of the fee applies only to hazardous waste, and is pro-rated for partial tonnages. No tonnage component is applied to:

1. On-site storage or processing of hazardous wastes
2. Liquid industrial wastes
3. Hazardous waste being recycled at a facility listed on the HWIN List of Recycling Facilities that meets the waste stream restrictions for that facility. A list of acceptable recycling facilities is provided on the HWIN website at (<https://www.hwin.ca/hwin/oda/recyclers.jsp>). Recycling facilities identified on the website are considered as recycling only in relation to the tonnage component of the fee, and should not be confused with any other Ministry requirements or policies related to recycling (i.e., these facilities are not exempt according to Section 3 of Regulation 347).
4. Hazardous waste, including stored, mixed, or processed hazardous waste that has been previously subject to the tonnage component. In other words, waste transferred through a transfer station in Ontario is exempt from the tonnage component, while waste from a transfer station in another jurisdiction would not be exempt from the tonnage component.
5. De-characterized waste that is being shipped off-site to treat the underlying regulated constituents in Schedule 6 of Regulation 347.

Because the annual generator registration is only valid until February 15 of the following year, you must renew your registration every year by February 15 to remain registered. The \$50 base fee and any outstanding fee balance from the previous year's activities are payable at the time of renewal.

4.1.5.1 Fee Payment

The Ministry requires the base fee of \$50 to be paid when completing registration by February 15 of each year. During the year, you must keep enough funds in your HWIN account to allow for the timely payment of the variable components of the fee associated with your shipments of subject waste. You should not ship subject waste if your account does not have sufficient funds to cover the associated fee.

In situations where an emergency generator number (EGN) that consists of an “ONS” number specific to the MOE district, and a unique incident report number has been obtained through the Ministry’s Spills Action Centre, the Ministry will not charge a generator registration fee.

Fee Payment Option 1: Payment in Advance

The generator registration fee may be paid in advance at the time of annual registration. This payment option may prove more convenient and reduce your time and administrative effort. If you choose to pay the registration fee in advance, the fee payable is the sum of the \$50 base fee plus your estimate of the number of manifests you will use, and the tonnage of hazardous waste you will generate during the calendar year. Most generators base their estimate on activities from the previous year. If the number of waste manifests and quantity of hazardous waste shipped throughout the year is more than the initial forecast, you will be required to provide additional funds to cover the variable components of the fee associated with these additional shipments of the remaining waste. These additional funds (i.e., manifest and tonnage component) need to be paid in full before you can submit your GRR for the following year.

To estimate your payment in advance on or before Feb 15, it may be helpful to use the following formula:

$$\text{Fee} = \$50 \text{ at registration} + [(\$5 \times \text{estimated number of manifests forecasted for coming year}) + (\$10 \times \text{estimated number of tonnes of hazardous waste forecasted for coming year})].$$

The sum of the three components should be added to your prepaid account.

Fee Payment Option 2: Payment throughout the Year

If you choose this option, the \$50 base fee must be paid at the time of annual registration. After that, sufficient funds to cover the manifest and the tonnage components of the fee must be added to the pre-paid account before any waste is managed either on- or off-site.

Methods of Fee Payment

The current methods of payment available are by credit card (Visa, Master Card or American Express) or by cheque, payable to “Minister of Finance.”

Payment by Credit Card

For credit card payments, please refer to the appropriate menu option after logging into HWIN, or choose the correct payment option on the paper copy of the GRR. Please contact the HWIN Help Desk at 1-866-494-6663 for other options regarding credit card payments.

Payment by Cheque

Cheques may be mailed to the Ministry (payable to “Minister of Finance”) at any time of the year. Please include your Generator Registration Number on the cheque so that the funds can be deposited to the

appropriate pre-paid account. A receipt will be e-mailed to the main contact you have identified when the funds are deposited.

Reconciliation of Fees

Where the fee paid for the year is less than the actual fee owed, the difference must be paid before registration can be completed in the following year. Where the fee paid for the year is greater than the actual fee owed, the amount will be maintained in the pre-paid account for use over the following year.

4.1.5.2 HWIN List of Recycling Facilities

The HWIN List of Recycling Facilities includes facilities that process wastes to recover some portion of the material. The activities carried on at these facilities do not meet the requirements of Section 3 of Regulation 347 for an exemption, but the Ministry considers the material recovery that takes place at these recycling facilities to be beneficial.

Wastes that are sent to a facility on the HWIN List of Recycling Facilities must be registered. Facilities that are on the HWIN List of Recycling Facilities that receive wastes from off-site are required to have a Part V waste approval (inside Ontario) or other permit (outside Ontario) to carry on their operation.

Tonnage component Exemption

Under the provisions of the Minister's Requirement for Hazardous Waste Fees, generators that transport eligible wastes to one of the recycling facilities listed on the HWIN List of Recycling Facilities (<https://www.hwin.ca/hwin/oda/recyclers.jsp>) are exempt from paying the tonnage component (i.e., \$10 per tonne) of the generator registration fee (see Appendix E, section 2B). Every generator is still responsible for payment of the base fee of \$50 per year, as well as the manifest component of the fee (\$5 for every manifest used).

4.1.5.3 Application to be on the HWIN List of Recycling Facilities

To be considered for inclusion on the HWIN List of Recycling Facilities, a waste management facility must submit a written request to the Ministry. The request should contain enough information for the Ministry to evaluate the recycling operation at the facility, and to determine if the waste classes received are eligible for the tonnage component exemption. Further details about the information that should be provided are presented below.

Revisions to the HWIN List of Recycling Facilities are posted twice a year (or more often, as needed), and the exemption from the tonnage component of the fee is applicable to the acceptable waste classes from the time of posting.

The rationale for considering a waste to be recycled is either that it is being processed to recover a usable material, or that it is being regenerated. To be eligible for consideration as recycled waste, the waste must be received from a registered generator. Some examples of recycled waste include:

- The recovery of metal from hazardous wastes such as spent batteries, photographic wastes, spent catalysts and PCB-contaminated electrical equipment

- The regeneration of spent solvents
- The re-refining of used oil.

The Ministry does not consider the use of waste for fuel as recycling, and as a result, facilities that use waste for fuel are not eligible for exemption from the tonnage portion of the generator registration fee. The recycling facility must have a Part V C of A (in Ontario) or other permit (outside Ontario) issued by the environmental regulator in the host jurisdiction. In the U.S., if the facility is operating under an exemption (for example 40CFR 261.2 (e) (i)), secondary materials used directly as an ingredient or feedstock are not solid waste), the generator should provide a letter for a “request for a determination of the regulatory status” from the regulatory body.

Additional considerations

- A numerical recovery target is not used as an indicator of recycling, since the number, which depends on the type of waste and the recycling process being used, could vary significantly. Previous manifest data (waste type and quantities received, waste types and quantities shipped out), however, are tabulated and reviewed.

The following information is requested from the recycling facility for Ministry review:

- A description of the waste and the waste number that has been used in manifesting the waste. If a Material Safety Data Sheet is available, please supply a copy.
- Are other wastes that are not recycled being received at the facility? If so, please provide a list and description of the wastes received at the facility that are not being recycled. Restrictions may be made on the wastes that are received at the facility and considered to be recycled.
- The C of A number (in the case of Ontario facilities) or the applicable permit number that was issued by the environmental regulator in the host jurisdiction.
- A copy of the C of A (for Ontario facilities) or the applicable regulatory permit (for host jurisdictions).
- The name and contact information of the environmental regulatory agency in the jurisdiction (if the facility is located outside Ontario).
- A description of the recycling process, including a description and the quantities of recovered usable product or regenerated product.

4.1.6 Part 5 – Certification (User Agreement)

Upon completion of registration, the generator must read and agree to the following “User Agreement:”

“I certify that I am the contact person named on this registration form, that I have undertaken reasonable inquiry to satisfy myself as to the contents of this registration form, and that all of the information contained on this form is accurate and complete to the best of my knowledge.

I acknowledge that it is an offence under subsection 184 (2) of the EPA to give false or misleading information to the Ministry of the Environment. I confirm that I have been designated by my organization as the HWIN Administrator, and as HWIN Administrator I certify that I will keep HWIN registration information current.

I acknowledge that the Ministry of the Environment will hold the users, including HWIN Administrators, of the Hazardous Waste Information system, responsible for certifications and electronic signatures they make or cause to be made while using this system.

Recognizing the importance of certifications and signatures, I certify that as HWIN Administrator I will implement the necessary management of user names and passwords to ensure the integrity of these certifications and signatures for use in the system by my organization.”

4.2 Annual Generator Registration (Registration Renewal)

Your generator registration remains valid from the day that the registration is posted on the Ministry’s HWIN website until February 15 of the following year. Once a facility has registered for the first time, annual generator registration is required each year for every subject waste generated at the facility. The annual generator registration process must be completed between January 1 and February 15.

Annual generator registration requires generators to review their generator registration document (the site profile) to ensure that the information in it is still accurate, and to update the site profile if HWIN requests a change. In addition, payment of the annual generator registration fee is required.

4.3 Supplementary Generator Registration (Revisions)

Even though a GRR must be completed and submitted every calendar year, should there be a change in the information in the GRR, a supplementary GRR needs to be submitted. Examples of a change include:

- A change in company name, mailing address or telephone number
- A change in the official responsible or main HWIN contact for the generator
- The need to register additional waste streams
- A change in waste characterization or waste class
- A change in treatment requirements for LDR wastes
- Site closures.

Please note that if you are relocating to a new site, you must register that site as if you were a new generator (i.e., complete the initial generator registration process for the new site) and close the old generator registration account for the old site.

As a waste generator, it is your responsibility to complete and submit a supplementary GRR if any changes occur. This report must be sent to the Ministry within 15 days of the date the change took place.

There is no additional base fee associated with the supplemental GRR provided that the facility has a valid generator registration document posted on the Ministry’s website. The manifest and tonnage components of the fee will apply for all manifests that are completed with newly added waste classes.

4.4 Emergency Generator Registration

In the event of a spill or environmental emergency, please contact the Ministry’s Spills Action Centre (SAC) at 1-800-268-6060. SAC is staffed on a 24-hour basis to receive and record provincewide reports

of spills and to co-ordinate appropriate responses. SAC also provides a special emergency generator number (EGN) that consists of an “ONS” number specific to the MOE district, and a unique incident report number. All spills and environmental emergencies must be reported to SAC before an EGN can be issued. The EGN must be obtained from SAC before any subject waste can be removed from the site. To obtain an EGN, manifests must be completed for each load of waste that is ready to be removed from the site. SAC will require information from the manifest to issue the number.

Emergency generator registration is only intended to facilitate the immediate cleanup and removal of waste from a spill or environmental emergency, to protect public safety, remediate the situation and return the site back to its normal intended use as soon as possible. Emergency generator registration is not available for non-emergency situations such as process aberrations, upsets, one-time waste removals or other unusual circumstances that do not require immediate removal of the waste. In such situations, the initial registration or annual registration process is available on a 24/7 basis through HWIN.

By enabling generators to obtain an EGN through emergency generator registration for a one-time shipment of subject waste, the Ministry recognizes that meeting the GRR requirements, including LDR requirements, may not be feasible in the immediate response to a spill or environmental emergency, particularly with respect to the characterization of the waste and treatment that may be required. However, once the immediate threat from the spill has been addressed, the owner of the waste is responsible for its characterization and for submitting a GRR, including LDR requirements, to the Ministry within 90 days, detailing the subject waste that has been removed from the site. You do not have to remit a generator registration fee for subject waste handled through emergency generator registration. See 5.1 of the manual for more information on these LDR requirements.

In the situation of a spill or environmental emergency, contact the Spills Action Centre, Ministry of the Environment, any time at 1-800-268-6060 regarding emergency generator registration.

4.5 Responsibilities of the Generator after Registration

After registering successfully with the Ministry, a generator registration document (site profile) for your facility will be posted on MOE’s website. The generator registration document contains your generator registration number and waste numbers, and you must use these numbers on manifests during all subsequent transactions involving subject wastes that are generated at your facility.

As a registered generator, you are responsible for ensuring that a generator registration document for your facility has been posted on the Ministry’s website, and that the information posted is correct. Please note that you cannot transfer subject waste until your generator registration document has been posted, along with information about the subject waste being transferred.

Each waste generator is responsible for selecting accurate waste numbers. The waste numbers posted on the generation registration document for your facility should not be considered as confirmation of the accuracy of the information that you submitted during registration. If, due to new information or re-assessment of information submitted, you feel that your waste is incorrectly classified, you will need to revise your GRR by submitting a supplementary registration.

Post-Registration Review

After the Ministry has posted your generator registration document, your facility may be subject to a more detailed review of its waste management practices by the MOE's district office near your facility. MOE's district office may conduct a detailed post-registration review that could result in requests for additional information or site visits.

It is also important to note that, as a waste generator, you are responsible for the characterization of your wastes and the information submitted to the Ministry. MOE's review is only intended to assist you in this process. If your waste is found to be incorrectly characterized, or the information on the GRR is incorrect even after your generator registration document has been posted, you could be liable for prosecution.

Information Made Available to the Public

The public has access to the following information submitted on the GRR and the manifests that are used to track your waste:

- Company name and address
- Waste numbers
- Volumes generated.

The information is available through the Public Information Data Set (PIDS), which is a database of the above information. Copies of the PIDS can be obtained from the Ministry by contacting the Environmental Monitoring and Reporting Branch's General Inquiry @ 416-235-6300.

4.6 MANIFESTING

A manifest is a document used to track the movement of liquid industrial and hazardous wastes (subject wastes) as they move from a generator to an off-site receiving facility. Manifests are used to identify the type of waste being shipped, overall volumes and the movements of the waste from generator to receiver to ensure that these wastes are managed appropriately.

The manifest is a six-copy document with each copy being distributed either to the generator, carrier, receiver or Ministry. There are three parts to the manifest: Part A is prepared by the generator, Part B by the carrier and Part C by the receiver. Please see Appendix C for detailed instructions on how to complete each part of the manifest and how those parts should be distributed. A sample manifest is included in the Appendix to this manual.

When completing a manifest for waste shipments in Ontario, generators are responsible for meeting all provincial, federal and international regulatory requirements. Where the federal Export and Import of Hazardous Waste Regulations under CEPA apply, or where the Interprovincial Movement of Hazardous Waste Regulations under CEPA apply, generators must fill in the fields associated with these regulations. Please contact the appropriate federal government department for guidance and instructions regarding these federal requirements.

There are two ways to complete a manifest, either electronically (on-line) or on paper:

1. Please see Appendix C for instructions on how to complete a manifest on-line
2. Please see Appendix C for instructions on how to complete a manifest on paper.

The next section of the manual describes manifest procedures that have been developed in Ontario to handle special situations.

4.6.1 Load Refusal

If a receiver refuses a shipment of subject waste, the carrier should consult and obtain instructions from the generator before attempting to deliver the waste to a different receiver. If the carrier cannot conveniently make a different transfer, the carrier may return the waste to the generator, along with all four parts of the manifest.

When a receiver refuses to accept a shipment of waste, the receiver must fill out a Load Refusal Report (please see Appendix C for a sample Load Refusal Report) to explain the reason for the refusal and the destination of the refused load. A copy of this report must be returned to the Director within three working days of the load's refusal.

The Load Refusal Report is in colour-coded in four parts, to be distributed as follows:

White (top copy)	Environmental Monitoring and Reporting Branch, Area M Ontario Ministry of the Environment 135 St. Clair Ave West Toronto, Ontario M4V 1P5
Blue (second copy)	Retained by the receiver who refused the load
Green (third copy)	Provided to the generator who shipped the load
Pink (bottom copy)	Retained by the carrier who transported the load

Please note that if the waste is shipped to another receiver, the actual receiver of the waste should complete Part C of the manifest.

A secondary manifest may need to be used to refuse a load (i.e., partial load refusals). In such cases, both manifests will need to be referenced on the load refusal report, and a copy of the original manifest should be attached to the secondary manifest while the waste is in transit.

The "Load Refusal Report" can be obtained from the Environmental Monitoring and Reporting Branch or any Regional/District Office of the Ministry of the Environment.

4.6.2 The use of the manifest for exempt waste

If another jurisdiction requires the manifesting of a shipment of a waste that is exempt from Ontario's manifesting requirements (such as the requirements under the federal Export and Import of Hazardous Waste Regulations under CEPA or the Interprovincial Movement of Hazardous Waste Regulations under CEPA), the Ministry suggests that the generator obtain the appropriate manifest forms from the regulatory agency that requires them.

If any other regulation requires that a copy of the manifest be sent to the Ministry, the generator must enter Exempt in the Registration No. (e.g., Generator Number) box and in the Prov. Code (e.g., Ontario Waste Class) box of the manifest. Further information is provided in Appendix C on the use of the manifest for exempt waste or exempt generators.

Generators are discouraged from using the Ontario manifest to ship non-subject waste. The use of a manifest obtained from MOE requires that copies be returned to the Ministry, and this may trigger the \$5 per manifest component of the generator registration fee.

4.6.3 Corrections to Manifests

If an error has been made on the paper manifest, the error must be corrected in writing by forwarding either:

- 1) A copy of the manifest with all changes initialled. If you still have the copy that is to be returned to the Ministry, make changes directly on that copy and return it to the Ministry. If you have already submitted the relevant copy to the Ministry, make changes on your copy, photocopy it, and forward the copy to the Ministry, or
- 2) A signed letter specifying the manifest number and the exact correction to the Ministry.

The error must be corrected by the signatory of the appropriate part of the manifest (i.e., the generator in Part A, the carrier in Part B, or the receiver in Part C).

Corrections to manifests should be sent to:

Environmental Monitoring and Reporting Branch, Area M
Ontario Ministry of the Environment
135 St. Clair Ave West
Toronto, Ontario M4V 1P5

Waste Class Corrections

In cases where the receiver receives a waste that is incorrectly classified, the receiver must not change the waste class that was entered by the generator. Rather, the receiver should notify the generator, who must then send a “Correction to the Manifest” to the Ministry, advising it of the correction or the carrier or receiver makes a correction request to the Ministry that is accompanied with the generator’s initials. The receiver may notify the Ministry that there is a discrepancy on the manifest (i.e., copy the Ministry on their communication to the generator), although no changes to manifest data outside of Part C will be initiated.

4.6.4 Load Acceptance – Refusal

In Box 34 of the Manifest (Shipment Accepted-Refused), a new entry is required to indicate whether the shipment was accepted or refused.

5 LAND DISPOSAL RESTRICTIONS (LDR)

5.1 Introduction

Ontario's LDR program was put in place to strengthen the regulatory framework for hazardous waste management, and to enhance the harmonization of the province's hazardous waste rules with those of the U.S., our largest hazardous waste trading partner.

The LDR program requirements set out in Regulation 347 prohibit the disposal of untreated hazardous waste in or on the land, unless the waste meets specific treatment requirements to reduce the mobility and/or toxicity of its hazardous components.

More detailed information on the LDR program is provided in the handbook, which is available on the Hazardous Waste Rules and Regulations page of the Ministry's website (see <http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm>). This web page also includes a series of Fact Sheets that focus on specific aspects of the LDR program.

5.2 Overview of the LDR Program

The LDR program affects hazardous waste generators, carriers and receivers. The program requires the treatment of hazardous wastes that will be land disposed in Ontario to:

- 1) substantially diminish the waste's toxicity by destroying or removing its harmful constituents, or
- 2) reduce the mobility of the waste's contaminants.

The LDR program includes the following are key elements:

- Each type of hazardous waste must meet a specific land disposal treatment requirement before being land disposed. The treatment requirements can include meeting a specific concentration limit or using a specific treatment technology. For a hazardous waste whose LDR requirement is a concentration limit, any suitable technology can be used for its treatment.
- The land disposal treatment requirements are being phased-in over a period of just over two years. The first treatment requirements took effect on August 31, 2007, and the rest of the requirements taking effect on December 31, 2009.
- The LDR program includes alternate treatment standards for waste soils or soil mixtures and waste debris or debris mixtures.
- The LDR program prohibits the mixing, blending or bulking of hazardous wastes with other wastes or materials, to prevent meeting the land disposal treatment requirements through dilution. However, Ontario's rules allow wastes to be mixed, blended or bulked when this is done to meet a treatment standard, or under the terms permitted by a C of A.
- The LDR program includes on-site storage requirements for waste generation facilities. These requirements provide some flexibility for generators, enabling them to accumulate sufficient

volumes of waste before disposal, while at the same time ensuring that temporary storage of wastes is carried out appropriately.

- Under the LDR program, hazardous waste generators are required to evaluate their waste streams and how they are managed, and to determine through the generator registration process whether additional information is required for LDR purposes. Generators that are required to identify the regulated constituents in their hazardous wastes can do so either by using analytical testing or their detailed knowledge of the waste they produce.
- The LDR program includes formal notification and reporting requirements for generators and processors of hazardous wastes. Processors that treat these wastes to meet a treatment requirement are also required to complete a waste analysis plan.
- Specific variances to a land disposal treatment requirement may be obtained through a Director's letter of equivalent treatment, through Certificates of Approval issued on a case-by-case basis, or through future amendments to the regulation, if warranted.

5.3 Applicability of the Land Disposal Treatment Requirements

The LDR program specifies the land disposal treatment requirements for all listed wastes and characteristic wastes that will be land disposed in Ontario. The treatment requirements apply to both the generated waste itself and to any residuals from the processing of the waste, if the residuals are also listed wastes or characteristic wastes.

These wastes are considered to be land disposed if they are deposited or disposed upon, into, in or through land. The term land disposal is defined in subsection 1 (1) of Regulation 347, and includes activities such as the disposal of wastes at a dump, a landfill or landfarm, as well as the discharge of wastes into a geological formation (i.e., deep well disposal). Ontario's land disposal treatment requirements are over and above the province's approvals requirements for waste disposal facilities. However, the temporary placement of remediation waste on land at a contaminated site as part of a site remediation plan is not considered to be land disposal.

The following wastes are **not** subject to Ontario's land disposal treatment requirements:

- Non-hazardous wastes
- Liquid industrial wastes
- Small quantity exempt (SQE) wastes
- Part V exempt wastes (e.g., agricultural wastes, recyclable wastes).

The following hazardous wastes are subject to Ontario's land disposal treatment requirements, and cannot be land disposed unless they have been treated to meet specific LDR treatment requirements:

Listed wastes

- Acute hazardous waste chemical (A)
- Hazardous industrial waste (H)
- Hazardous waste chemical (B)
- Severely toxic waste (S)

Characteristic wastes

- Corrosive waste (C)
- Ignitable waste (I)
- Leachate toxic waste (T)
- Reactive waste (R)

The LDR program does not include land disposal treatment requirements for the following hazardous wastes:

- PCB waste as defined in Regulation 362 (i.e., >50 ppm PCB), which is prohibited from land disposal (Section 74 of Regulation 347).
- Pathological waste as defined in Regulation 347. Pathological waste is included in the biomedical waste definition in Guideline C-4.
- Radioactive waste — radioactive waste, except radioisotope wastes (i.e., produced as part of the nuclear fuel cycle) disposed of at a landfill site in accordance with the written instructions of the Canadian Nuclear Safety Commission, formerly the Atomic Energy Control Board, is hazardous waste. By contrast, the Ministry regulates radioactive waste that contains naturally occurring radioactive material (NORM) on a case-by-case basis.

If a waste contains PCBs at a concentration of less than or equal to 50 ppm, and is therefore not defined as a PCB waste, the waste could still be tested and be found to be leachate toxic for PCBs, which is a contaminant listed in Schedule 4 (Leachate Quality Criteria) of Regulation 347. If this is the case, the waste would have to meet the land disposal treatment requirements for E018 in Schedule 5 of Regulation 347, including the standards in Schedule 6 of Regulation 347, before it can be land disposed.

As well, if a waste is a biomedical waste, which includes pathological waste, Guidelines C-4 and C-17 provide additional direction on treatment, storage and handling. Guideline C-17 Non-Incineration Technologies for Treatment of Biomedical Waste (Procedures for Microbiological Testing) is available at <http://www.ene.gov.on.ca/envision/gp/4321e.htm>.

Hazardous wastes are not required to meet the LDR requirements for treatment before they are:

- Treated and discharged to surface water
- Discharged to a sewer or to another facility approved under the OWRA
- Sent to a recycling facility on the HWIN List of Recycling Facilities for recovery of materials from the waste, or
- Disposed of at an approved incineration facility or waste-derived fuel site.

A number of other LDR requirements (e.g., registration, notification) may apply, depending on how the hazardous wastes are managed before they are received at the above facilities. For information on the notification requirements in these situations, please see 5.8 of this manual.

Residuals from the management methods listed above may also be subject to the LDR program's registration, notification and treatment requirements at the new point of generation. For example, if the original waste was a listed waste, the resulting treatment residuals remain a listed waste. If the original waste was not a listed waste, the treatment residuals must be characterized to determine what type of hazardous waste it is. In such cases, if the treatment residuals are to be land disposed, the LDR program's treatment requirements would apply, depending on the characteristics of the residuals.

5.4 Land Disposal Treatment Requirements

The land disposal treatment requirements are found in Schedule 1, Part A and Part B of Schedule 2, Schedule 3 and Schedule 5 of Regulation 347. For each hazardous waste, the schedules provide a hazardous waste number, a description of the waste or process, the regulated constituent(s) and a specific treatment requirement for both aqueous and non-aqueous forms of the hazardous waste. Waste generators need this information for each waste stream that is generated at their facility, and may also need to provide the information in the LDR notification form (Part 2B) of the GRR.

5.4.1 Identifying the Treatment Requirements

Generators can identify the type of hazardous waste they produce either by using chemical analysis, by using their own detailed knowledge of the waste, or a combination of the two. Identifying the land disposal treatment requirement that applies to your waste is based on the hazardous waste number for each type of waste. Additional analysis and/or knowledge may be needed to identify the regulated constituents, including additional regulated constituents listed in Schedule 6 of Regulation 347 for characteristic wastes. The waste characterization process is explained in 3.5 of this manual, and a discussion of the analysis requirements is provided in 3.5.1 of this manual.

If there are any changes in the raw materials or in the process that generates the waste, and these changes could affect the composition of the waste or its physical or chemical properties, generators are required to review or repeat the waste characterization and identify the appropriate land disposal treatment requirements.

Hazardous waste generators are responsible for identifying all applicable hazardous waste numbers for each type of waste stream. In some cases, hazardous waste numbers may have sub-categories that involve different land disposal treatment requirements. If this is the case, generators are required to identify the correct sub-category for the hazardous waste number in the LDR notification form (Part 2B of the GRR).

There are two types of land disposal treatment requirements; numerical standards (which involve concentration limits) and treatment methods and standards (which involve treatment codes).

If numerical standards are specified for a waste, the concentration of each regulated constituent in the waste must be below the land disposal treatment requirement before the waste may be land disposed. By contrast, if treatment codes are required to treat a waste, the waste must be treated using the treatment methods set out in Schedule 7 of Regulation 347 for that treatment code before the waste may be land disposed.

In some cases, the land disposal treatment requirement specifies one or more treatment codes, while in other cases the treatment requirement specifies a choice of treatment codes. In either case the waste needs to be treated using the applicable treatment method and standard described in Schedule 7. Each treatment code has a corresponding treatment method and standard.

5.4.1.1 Treatment Requirements for Listed Wastes

The land disposal treatment requirements for listed wastes are included in Schedule 1, Part A and Part B of Schedule 2 and Schedule 3 of Regulation 347. The schedules identify the hazardous waste, its hazardous waste number, the regulated constituent(s) in the waste and the corresponding land disposal treatment requirement for each. Please note that all of the treatment requirements must be met for each regulated constituent in the waste stream.

The derived-from rule, which is explained in 3.1.4.1 of this manual, applies to listed wastes. Accordingly, listed wastes remain listed wastes after they have been treated to meet the land disposal treatment requirements. The treated wastes must therefore be disposed of at a facility that is approved to accept hazardous wastes. Facilities that receive these wastes for treatment and disposal must ensure that the wastes meet the applicable land disposal treatment requirements before they are land disposed.

There may be certain cases where a listed waste that has been treated to meet the land disposal treatment requirements may be disposed of in a non-hazardous waste disposal facility. For example, the treated listed waste has been delisted through a C of A that states that in the opinion of the Section 39 Director (i.e., for approvals purposes), the waste that is produced in accordance with the C of A does not have characteristics similar to the characteristics of the listed waste from which it was derived (i.e., the treated listed waste is no longer considered to be a listed waste as the Section 39 Director has determined that the derived-from rule does not apply) and provided that the treated waste is also not a characteristic waste. Please see 3.1.4.2 of this manual for more information on delisting a listed waste.

5.4.1.2 Treatment Requirements for Characteristic Wastes

The land disposal treatment requirements for characteristic wastes are included in Schedule 5 of Regulation 347. This schedule identifies the hazardous waste, its hazardous waste number, the regulated constituent(s) in the waste and the corresponding treatment requirements for each. All the treatment requirements must be met for each regulated constituent in the waste. Moreover, if the waste stream is characterized by more than one hazardous waste number, it must meet the land disposal treatment requirement for each number before it can be land disposed.

Most of the land disposal treatment requirements in Schedule 5 also include a requirement to meet the standards in Schedule 6 of Regulation 347. As a result, the generator must identify the constituent(s) that caused the waste to be characteristic, as well as any other regulated constituent in Schedule 6 that may be present in the waste at a concentration at or above the Schedule 6 standard at the point of generation. This information must be reported in the LDR notification form (Part 2B) of the GRR.

Schedule 6 lists additional regulated constituents for characteristic wastes and their associated treatment requirements. The treatment requirements are typically referred to as Universal Treatment Standards (UTS) and the regulated constituents in Schedule 6 are often referred to as Underlying Hazardous Constituents (UHC).

If a characteristic waste is de-characterized (please see 3.1.7 of the manual), but still has regulated constituents that do not meet the standards in Schedule 6, it cannot be land disposed. In such cases, the waste remains a subject waste and the generator needs to register the waste and complete the questionnaire (Declaration of Waste Streams Subject to Land Disposal Restrictions) in Part 2A of the

GRR. The questionnaire will indicate if the LDR Notifications Form (Part 2B) needs to be filled out for this waste stream.

Once a characteristic waste has been treated and meets the treatment requirement in Schedule 5 for the regulated constituent that made it hazardous (and if applicable, treated to meet the treatment requirement for any regulated constituent in Schedule 6), it can be land disposed at a facility that is approved to accept non-hazardous waste or a facility that is approved to accept hazardous waste. Facilities that receive these wastes for treatment and disposal must ensure that the wastes meet the applicable land disposal treatment requirements before land disposal.

1. Ignitable Waste

The treatment requirements for ignitable wastes are separated into two groups: ignitable wastes with greater than or equal to 10 per cent total organic carbon, and all other ignitable wastes. Ignitable wastes must be treated to remove the characteristic and meet Schedule 6 standards, or be treated by a specified technology.

2. Corrosive Waste

Corrosive wastes must be treated to remove the characteristic and meet Schedule 6 standards.

3. Reactive Waste

There are several sub-categories for reactive wastes. Depending on the type of waste, some must be treated to remove the characteristic and meet Schedule 6 standards, while others only require the removal of the characteristic. Reactive cyanides must meet concentration-based standards for cyanides.

4. Leachate Toxic Waste

In general, leachate toxic wastes must be treated to meet a specific numerical standard for the characteristic(s), and must meet Schedule 6 standards for all other regulated constituents that may be present. Certain leachate toxic wastes (i.e., some cadmium, mercury, and lead-based wastes) have different land disposal treatment sub-categories based on the type of waste and the concentration of its regulated constituent.

Some leachate toxic wastes have a treatment requirement in Schedule 5 that reads “Meet Schedule 6 standards and best efforts to achieve” the specified concentration limit for the contaminant listed in Schedule 4 of Regulation 347 (i.e., removal of the characteristic). For these wastes, any regulated constituents listed in Schedule 6 that are present in the waste must meet the Schedule 6 standard. As well, where possible, best efforts must be used to treat the waste to the specified concentration limit so that it is no longer a characteristic waste. If the waste remains leachate toxic after treatment for the contaminant, it must be land disposed in a facility that is approved to accept hazardous wastes, provided that all the other regulated constituents in the waste meet Schedule 6 standards.

5.4.1.3 Wastes that are both Listed and Characteristic

Hazardous wastes that are to be land disposed must meet the treatment requirements for all applicable hazardous waste numbers for wastes that are both listed and characteristic.

For example, if a listed waste exhibits a characteristic because of a contaminant listed in Schedule 4 of Regulation 347 that is one of the regulated constituents identified for that listed waste, the waste only has to be treated to meet the treatment requirements for the listed waste. However, if the listed waste exhibits a characteristic because of a contaminant listed in Schedule 4 that is not one of the regulated constituents

identified for that listed waste, the waste has to be treated to meet **both** the treatment requirements for the hazardous waste number assigned to the listing **and** for the hazardous waste number(s) assigned to the characteristic.

The treated waste can only be disposed of at an approved hazardous waste facility unless a C of A has been issued that states that the treated waste is no longer a hazardous waste.

All of the hazardous waste numbers must be identified in the LDR notification form, unless the land disposal treatment requirement for the listed waste contains the regulated constituent that caused the waste to be defined as a characteristic waste.

EXAMPLE: The regulated constituents for the listed waste with the hazardous waste number K002 are chromium and lead. If a K002 waste exhibits a characteristic for a contaminant other than chromium and lead (i.e., cyanide), it is also a characteristic waste and the hazardous waste number (i.e., E006 for cyanide) must be identified. However, the hazardous waste numbers for chromium (D007) and lead (D008) do not apply, since these regulated constituents are included in the K002 listing.

5.5 Exemptions from Land Disposal Treatment Requirements

5.5.1 Wastes from a Small Quantity Generator (SQG)

Section 80 of Regulation 347 includes provisions that exempt wastes in a sealed container from the requirement to meet Ontario's land disposal treatment requirements before they are land disposed. These provisions do not exempt these wastes from all LDR requirements. Rather, they establish alternate management requirements (e.g., container and certification requirements) that must be met in order for the wastes to be exempt from the treatment requirements.

This exemption is for wastes produced by generators that produce a total of less than 100 kg of hazardous industrial waste (H), hazardous waste chemical (B) and characteristic waste (I, C, R, or T) in any month. Such generators are referred to as small quantity generators (SQGs). Please note, however, that the Section 80 exemption does not apply to severely toxic wastes or acute hazardous waste chemicals. Generators of these wastes must always treat these wastes to meet the land disposal treatment requirements.

It is important to note that the wastes generated by small quantity generators (SQGs) are not the same wastes covered by the small quantity exemptions (SQE), which are exemptions under the definitions of liquid industrial waste and hazardous waste. The provisions in Section 80 for a SQG do not exempt these wastes from the definition of hazardous waste. As a result, SQGs may still need to meet all of the other hazardous waste requirements for these wastes, including registration, manifesting and transportation by a Ministry-approved carrier to manage the specified class of waste.

Under the provisions of Section 80, SQGs can have their waste(s) land disposed without meeting the land disposal treatment requirements, provided that they:

- Generate the waste(s) at their waste generation facility and do not mix, blend or bulk them with other wastes or materials

- Place the waste(s) into a sealed container that weighs no more than 250 kg, including the weight of the container
- The container and its seal comply with the requirements of this manual, and
- Affix a signed certificate to the sealed container.

The signed certificate affixed to the sealed container must include the following information:

1. The name, address, telephone number and generator number of the generator. This information relates to the site where the waste(s) is generated.
2. The statements described in subsection 80 (3) of Regulation 347 that certify the security of the container and its contents, where the waste(s) was produced, and the weight of the container (please see the example provided in Appendix D of the manual).
3. A description of the contents of the container, including a description of the waste(s) inside and the appropriate waste number(s) and quantities of each waste. If more than one waste is included in the container, the description of the contents should be preceded by the designation “Lab-Packed Contents.”
4. A signature (and printed name) and the date on which the certificate was signed. The certificate must be signed by an individual at the generating site who is knowledgeable about the contents of the container, and thus in a position to confirm that the information included on the certificate is accurate.

A sample certificate is included in Appendix D of the manual.

The wastes in the sealed container will continue to be exempt from Ontario’s land disposal treatment requirements as long as the container is not opened and does not appear to be broken or leaking at any time before its land disposal. Please note, however, that although these wastes are not required to meet the land disposal treatment requirements, they are still considered to be hazardous wastes, and must be managed or disposed of at an approved hazardous waste receiving site.

A generator is free to select an effective/appropriate method of sealing the containers. Whichever method is chosen, it must be apparent that the seal has not been broken or tampered with upon receipt of the waste at a waste-receiving site. Examples of security seals that can be used for hazardous waste containers include serialized plastic cargo seals, pull seals, padlocks or security wire seals, as well as tamper-evident tape.

Further information about the disposal of hazardous waste in accordance with the SQG provisions can be found in the handbook, which can be accessed through the Ministry’s website at <http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm>.

5.5.2 Wastes from Municipal Hazardous or Special Waste (MHSW) Depots

Section 81 of Regulation 347 includes provisions that exempt specific wastes from meeting the land disposal treatment requirements if they are collected at an approved waste disposal site (e.g., a MHSW depot) that is operated either by or exclusively for a municipality for the collection of MHSW, also known as HHW, from the general public or householders.

If these sites collect this waste and also collect wastes from other generators (typically those in the industrial, commercial and institutional (IC&I) sector) in quantities that meet the small quantity exemptions in the various hazardous waste definitions in Regulation 347, they are not required to have these wastes treated to meet the LDR treatment requirements before the wastes are land disposed. MHSW depots that handle, bulk and temporarily store such wastes can send them for land disposal at an approved facility without meeting the LDR treatment and notification requirements, provided that the wastes are not processed or disposed of on-site.

Some MHSW depots may also be approved to accept larger volumes of wastes from IC&I generators, including hazardous wastes. Any hazardous waste collected at an approved MHSW depot that is not a MHSW or SQE waste is not included in the Section 81 provisions, and thus may be subject to the LDR requirements.

The owner/operator of a MHSW depot is obliged to demonstrate at all times that the provisions of Section 81 apply to the wastes received at the facility. For facilities that are approved to receive wastes only from domestic sources and SQE wastes from IC&I generators, the requirements of the facility's C of A ensure that the provisions of Section 81 are met. However, additional measures such as labels and/or security seals similar to those used for wastes that meet the SQG provisions of Section 80 may be helpful to demonstrate compliance with the LDR requirements (please see the handbook for an example of a label that could be used).

Facilities that are approved to accept hazardous wastes (e.g., wastes that are equal to or exceed the SQE) from IC&I generators must ensure compliance with the LDR requirements. If wastes are accepted from a SQG, the provisions in Section 80 must be met in order to land dispose these wastes without treating them to meet the LDR treatment requirements. Wastes from a generator that are accepted in amounts greater than those specified for SQGs must meet the land disposal treatment requirements before the wastes are land disposed. MHSW depots should also check with their waste management service providers to determine if any additional, company-specific requirements apply.

For more information on the Section 81 provisions and how they affect these sites, please refer to the handbook.

5.6 Hazardous wastes that are lab-packed

A lab pack is a term used to identify a common container, usually a steel or fibre drum, which generally contains small quantities of waste chemicals that are individually packaged and then over-packed in the common container. Lab packs are used to transport these wastes to a waste management facility.

The Ministry recommends that generators separate lab packs into those that contain wastes that have to meet LDR treatment requirements and those that contain wastes that do not have to meet the LDR treatment requirements. If lab-packed wastes that do not have to meet land disposal treatment requirements are mixed with wastes that do have to meet the treatment requirements, the combined wastes must meet the land disposal treatment requirements. Please note that the LDR program does not include alternate treatment requirements for lab-packed hazardous wastes.

The contents of a lab pack are subject to specific LDR requirements, depending on the type of waste, the status of the generator and how the waste in the lab pack is to be disposed. Generators should also note that:

- SQE wastes are not hazardous by definition, and that lab packs containing only SQE wastes are thus exempt from land disposal treatment requirements.
- Lab-packed hazardous wastes generated by a SQG that meet the requirements in Section 80 of Regulation 347 do not have to meet land disposal treatment requirements before land disposal.
- Hazardous wastes that are not SQE wastes or wastes generated by a SQG and are to be land disposed can be lab packed, but the wastes must meet LDR registration, notification and land disposal treatment requirements.

Waste generators are responsible for determining whether LDR requirements apply to their wastes, and for notifying the receiver about the nature of the wastes and the land disposal treatment requirements that must be met. Information on registration, manifest and notification requirements for lab-packed wastes can be found in 3.7.5 of this manual. The handbook also includes information on the management of hazardous wastes that are shipped in lab packs and subject to LDR requirements.

Lab-packed hazardous wastes may only be received at a facility that is approved to accept and transfer each type of hazardous waste in the lab pack. If the lab packs are unpacked and processed or bulked with similar wastes, the facility must be approved to process each type of hazardous waste contained in the pack. If any of the wastes from a lab pack are to be land disposed, the land disposal treatment requirements apply to each waste, unless the wastes and the lab pack meet the requirements in Section 80 of Regulation 347. If a lab pack meeting the requirements of Section 80 is opened by a transfer or processing facility, the facility must ensure that each hazardous waste in the pack that is to be land disposed meets the applicable land disposal treatment requirements.

In addition, if a lab pack is to be unpacked and sorted with the possibility that any of the individual hazardous wastes in the lab pack will be land disposed, the initial generator must ensure that the LDR notification requirements are met for all of the wastes in the lab pack. This includes reporting the hazardous waste number for each waste in the LDR notification form (Part 2B) of the GRR.

Generators of hazardous wastes that must meet LDR requirements but do not meet the SQG provisions in Section 80, or generators of acute hazardous waste chemicals or severely toxic wastes, may still lab-pack their wastes. However, these generators must ensure that the LDR notification requirements are met for all the wastes in the lab pack, and must also include the hazardous waste number for each waste when they complete the LDR notification form (Part 2B) of the GRR.

LDR requirements do not apply to hazardous wastes that are lab-packed and are not to be land disposed (e.g., lab packs that are going directly to an incineration facility). If the generator sends the lab-packed wastes to a processing facility before they are to be sent to an incineration facility, the land disposal treatment and notification requirements do not apply — provided that the wastes are only being bulked with like wastes, and that no other processing of the waste occurs. In such cases, however, the generator must still complete the GRR, including the questionnaire in Part 2A.

5.7 Alternate Treatment Standards

Ontario's LDR program includes alternate treatment standards for a soil or a soil mixture and a debris or a debris mixture that is a listed waste or characteristic waste. These wastes may be treated in accordance with the waste-specific land disposal treatment requirements, or in accordance with the alternate treatment standards described in Section 82 (soil or a soil mixture) and Section 83 (debris or a debris mixture) of Regulation 347.

5.7.1 Soils

As described in 3.1.4.1 of this manual, the mixture and derived-from rules are not strictly applied to waste soils (remediation wastes) from brownfield sites. Such remediation wastes are only deemed to be hazardous wastes when they are determined to be a characteristic waste.

The alternate treatment standards for waste that is a soil or a soil mixture are identified in Section 82 of Regulation 347. The land disposal treatment requirements for these wastes are as follows:

- The characteristics that make the wastes ignitable, corrosive and reactive must be removed.
- For leachate toxic wastes, all regulated constituents listed in Schedule 6 of Regulation 347 that are present in the waste must be treated so that:
 - The concentration after treatment is not more than 10 per cent of the concentration before treatment (i.e., 90 per cent reduction in the concentration of the regulated constituent), or
 - The concentration after treatment is less than 10 times the standard shown in Column 4 of Schedule 6. Please see the example in the box below.

Soils may be land disposed without treatment if they are not ignitable, reactive or corrosive, and if none of the constituents listed in Schedule 6 is present at a concentration of more than 10 times the value listed in Column 4 of Schedule 6.

After a soil has been treated so that it meets the alternate treatment standard, it may still be a characteristic waste because it is leachate toxic. In such cases, the waste must be disposed of at a facility that is approved to accept hazardous wastes, and will then be deemed to have met the land disposal treatment requirements. If the waste is no longer a hazardous waste after treatment, it can be disposed of in a non-hazardous waste receiving facility.

If residuals from the treatment of soils that were a listed waste or characteristic waste are hazardous waste, they must be treated to meet the land disposal treatment requirement for the new waste stream. This provision applies unless the residuals are a soil or a soil mixture, in which case the alternate treatment standards can be used to meet the treatment requirement before land disposal.

EXAMPLE (all concentrations are mg/L TCLP) - soil that is leachate toxic for cadmium (e.g., cadmium level exceeds Schedule 4 value of 0.5 mg/L):

- No treatment is required if the cadmium concentration is below 1.1 mg/L (10 times the value in column 4 of Schedule 6)
- Treatment is required if the initial concentration of cadmium in the soil is more than 1.1 mg/L. The treatment needs to achieve:
 - A cadmium concentration of 1.1 mg/L or less OR
 - A cadmium concentration above 1.1 mg/L, provided that the concentration after treatment is not more than 10 per cent of the concentration before treatment (i.e., from 20 mg/L to 2 mg/L).

The soil may be disposed of at a non-hazardous waste facility only if the cadmium concentration in the treated soil is below 0.5 mg/L (leachate quality criteria from Schedule 4 of Regulation 347).

5.7.2 Debris

Section 83 of Regulation 347 identifies the alternate treatment standards for waste that is a debris or a debris mixture. These standards are technology-based. Schedule 8 of Regulation 347 (Alternative Treatment for Hazardous Debris) lists the technologies that may be used, the standards for each debris type, and any restrictions on the use of the technology based on the contaminant being treated.

The alternate treatment standards for a debris or a debris mixture cannot be used if the debris mixture includes:

- Lead acid batteries, cadmium batteries, or radioactive lead solids
- Process residuals such as smelter slag, residues from the treatment of wastewater or other waste, sludge and residues from the treatment of sludge, and residues from air pollution control equipment, or
- Intact containers of hazardous waste that are not ruptured and that retain at least 75 per cent of the volume of the original container.

If the above waste materials are segregated from a debris mixture, the remaining waste that is a debris or a debris mixture can be treated using the alternate treatment standards. The segregated waste materials above must be treated in accordance with the waste-specific land disposal treatment requirements.

Schedule 8 lists the methods that may be used to treat a waste that is a debris or a debris mixture. The treatment method(s) must address all of the regulated constituents in the debris, as well as each type of debris in a debris mixture. One or more treatment technologies may be required — and if an immobilization technology is used, it must be the last technology used.

Only debris or a debris mixture that is deemed to be a listed waste or characteristic waste is subject to the land disposal treatment requirements. The debris or debris mixture must be treated in accordance with one or more of the treatment methods in Schedule 8, and must no longer display a characteristic after treatment. After treatment, material that is still debris must be separated from material that is not debris. Residual that is not debris is subject to the waste-specific land disposal treatment requirements for a listed waste or characteristic waste. Regulation 347 contains specific provisions for residual waste that is reactive because of the presence of cyanide, and for layers of waste removed by spalling.

The alternate treatment standards in Schedule 8 are separated into three groups of technologies: extraction, destruction and immobilization. Debris or a debris mixture contaminated with a listed waste and treated using an immobilization technology must be disposed of in an approved hazardous waste receiving facility. By contrast, listed waste or characteristic waste that is a debris or a debris mixture that has been treated using extraction or destruction technologies and that is no longer a characteristic waste may be disposed of in a non-hazardous waste receiving facility.

5.8 Notification, Record-keeping and Waste Analysis Plan Requirements

The LDR program includes requirements that affect the generator registration process. The program also introduces notification and record-keeping requirements, as well as the requirement to develop a waste analysis plan when treating hazardous wastes to meet the land disposal treatment requirements. Together, these requirements are designed to ensure that the appropriate information about the nature of the wastes

and the type and status of treatment is known — and that this information is recorded and transferred to the receivers of these wastes, and available to the Ministry to facilitate its abatement activities.

To standardize and facilitate the notification process, the Ministry has included an LDR notification form (Part 2B) as part of the GRR. This form is designed to include all the information that needs to be transferred to the receiver to meet Regulation 347's LDR notification requirements. Generators and operators of processing facilities are required to comply with these requirements, based on the LDR program's phase-in schedule. The details of the phase-in dates for each type of hazardous waste are provided in 5.10 of this manual.

As noted earlier, the HWIN system allows generators to print a copy of the LDR notification form so that the form can be transferred to a receiver. While generators may decide to use a different form for transfers to a receiver, the form they use must meet the LDR notification requirements and include all the information required in the LDR notification form.

The following subsections of the manual outline the requirements of Sections 84 and 85 of Regulation 347 for generators and processors of hazardous wastes who are affected by the LDR requirements. Additional information on completing Part 2B of the GRR can be found in 4.1.3 of the manual, while further information on the notification requirements can be found in the handbook.

5.8.1 Generators

5.8.1.1 Notification requirements (Section 84)

Generators of hazardous wastes that may be subject to the LDR program's notification requirements can include the original waste generator or any subsequent receiver (e.g., transfer station or processing facility) involved in the production, collection, handling or storage of these wastes.

Once a generator has determined all of the characteristics for a waste and that the waste is subject to generator registration requirements, the generator must determine whether the land disposal treatment requirements apply, and whether additional information is required for LDR purposes. During the generator registration process, the generator must assess all listed wastes and characteristic wastes to determine whether there is a requirement to provide the receiver of the waste with the additional information.

Part 2A of the GRR paper form and the on-line form in HWIN include a questionnaire that is designed to determine if the waste being registered is subject to the LDR requirements. By completing the questionnaire for each hazardous waste stream, generators will determine if they need to complete the LDR notification form (Part 2B) of the GRR. Section 4.1.3 of this manual guides the generator through completion of Part 2B, and examples of Part 2B for different types of wastes and treatment situations are provided in Appendix B.

Notification is a one-time requirement that provides the receiver with information about the waste, the relevant treatment requirement and whether the waste has been partially or fully treated. This must be done either before or on the first transfer of the waste. If, after the first notification, the description of the waste or the physical or chemical properties of the waste change, the generator must notify the receiver of the change by providing the updated information from the most recent Part 2B of the GRR to the receiver *before or at the first time* the waste is received at the receiving facility.

For the purposes of notification, a receiver can include a transfer station, a facility where the waste is being treated or a disposal facility. In the case of transfer stations, the receiver must register and forward the information about the waste to the next receiver. If like wastes are bulked at a transfer station, the waste that is shipped off-site must be registered, and the information from the bulked waste streams must be included in the notification form sent to the next receiver (please see 3.8 of the manual for more details on bulking at transfer stations). Moreover, if any processing of the waste occurs at a facility, the processor must identify this in the notification form provided to the next receiver (please see also 5.8.2.2 of the manual). Finally, if the Ministry has provided a variance from a treatment requirement for a specific waste, the generator must include information about the variance (e.g., approval number, effective dates).

If a waste generation facility treats wastes on-site to meet land disposal treatment requirements, the generator must also comply with the requirements specified in Section 85 of Regulation 347.

The waste generator may supply the information in the notification form to the receiver in any of the following ways:

- To the carrier of the waste with instructions to deliver the information to the receiver
- In accordance with Section 182 of the EPA (i.e., personally, by mail, in accordance with regulations respecting service)
- By fax or other form of delivery, or
- By giving the receiver a specific internet address where the information can be found.

A generator of a listed waste or characteristic waste is not required to meet the LDR notification requirements, provided that all of the waste is managed by one of the methods described below:

- Treated and discharged to surface water, discharged to sewer or to another facility approved under the OWRA
- Sent to a recycling facility that appears on the Ministry's HWIN List of Recycling Facilities on the HWIN website (<https://www.hwin.ca/hwin/oda/recyclers.jsp>) for recovery of material from the waste
- Disposed of at an approved incineration facility
- Disposed of at a waste-derived fuel site.

Listed waste or characteristic waste that does not have to meet the LDR notification requirements must be shipped directly to the facilities listed above or shipped indirectly to them through a transfer/processing facility, as long as the activities conducted at the facility are limited to bulking of like wastes that are also destined and managed at the same facility.

If any processing occurs at an off-site facility before the waste arrives at the intended receiving facility (e.g., recycling facility on the HWIN List of Recycling Facilities, etc.), the original generator needs to complete the notification form and send it to the initial receiver. Processing for this purpose includes mixing, blending or other intermingling of the waste with any other waste or material, but does not include bulking of like wastes or mixing of wastes in accordance with a C of A. Please see 6.1.1 of this manual for more information on this requirement. Please also note that the residuals from the management methods identified above may be subject to the registration and LDR requirements at the new point of generation.

Hazardous wastes that are shipped out-of-province are subject to the LDR notification requirements, unless they are sent directly to a facility on the HWIN List of Recycling Facilities or to another off-site facility where only bulking of the hazardous waste occurs before being received at a facility on the HWIN List of Recycling Facilities.

5.8.1.2 Record-keeping Requirements

Once the information needed for notification has been provided to the receiver, the generator is responsible for maintaining the following information:

- A record of all the information provided to the receiver
- The name of the receiver
- The date that the information was provided to the receiver.

This information must be stored at the waste generation facility for a period of at least two years.

Notification Requirements for Sealed Containers from a Small Quantity Generator (SQG)

A small quantity generator that meets the requirements of Section 80 is not required to complete the notification form. However, these generators are required to provide information to the receiver by means of a certificate on the container. Details about the SQG provisions and the information that must be included in the certificate are outlined in 5.5.1 of the manual, and a sample certificate is provided in Appendix D.

5.8.2 Processors

5.8.2.1 Notification Requirements (Section 84)

Any waste generation facility or receiving facility that processes hazardous waste to address a treatment requirement and later ships the waste off-site must comply with the notification requirements in Section 84, which oblige them to notify the next receiver about the nature of the waste and its treatment status.

The notification and record-keeping requirements for facilities that treat these wastes and then ship them off-site as either fully or partially treated wastes are identical to the requirements outlined above for generators. The requirement to complete the LDR notification form (Part 2B) and provide it to the next receiver is a one-time requirement that must be completed on or before the first transfer of the waste, after the land disposal treatment requirements for the waste take effect.

Generators must provide notification for LDR purposes for each type of treated waste to all waste disposal facilities that receive the wastes. The details of the type of notification vary, depending on the type of waste and extent of treatment as follows:

Listed wastes

- Listed wastes must be disposed of at an approved hazardous waste facility. The receiving facility that will further treat or dispose of the waste must receive a notification that contains all of the information in the LDR notification form for the treated waste.

Partially treated and de-characterized wastes

- Partially treated and de-characterized wastes are no longer hazardous but are still a subject waste (i.e., they cannot be land disposed because some of the regulated constituents do not meet Ontario's treatment requirements). The receiving facility that further treats the waste must therefore receive a notification that contains the information in the LDR notification form for the partially treated waste.

Fully treated characteristic waste

- Fully treated characteristic wastes can be disposed of in a hazardous or non-hazardous waste receiving facility. The receiving facility that will dispose of the waste must receive a notification containing a statement that the waste was characteristic waste, but that it has been treated to meet all the LDR treatment requirements and may thus be land disposed.

If the residual from the processing of these hazardous wastes is a listed waste or characteristic waste, and the residual needs to be processed to meet a treatment requirement before land disposal, the processor must comply with the registration, notification and record-keeping requirements for generators for the residuals.

The receiver that processes these wastes and ships them off-site to a recycling facility on the HWIN List of Recycling Facilities, an OWRA-approved facility or a waste-derived fuel or incineration facility would follow the same requirements described above for a generator who sends waste to these facilities. Any residues from the processing of the waste to make it amenable to management at one of these facilities (e.g., recycling facility on the HWIN List of Recycling Facilities, etc.) may be subject to registration, notification and record-keeping requirements.

When residues that are subject to LDR requirements are being registered, the GRR must contain the information provided by the original waste generators in the LDR notification forms for all wastes that entered into the process that generated the residues.

5.8.2.2 Waste Analysis Plan Requirements (Section 85)

Section 85 of Regulation 347 contains the requirements for a written plan (i.e., waste analysis plans). These requirements apply to all processors (e.g., processing on-site at a waste generation facility or processing off-site at a treatment facility) that treat hazardous wastes to meet land disposal treatment requirements. The requirement to develop and maintain a waste analysis plan takes effect at the same time as the treatment requirements for a hazardous waste take effect. The development of these plans will ensure that sufficient chemical analysis is conducted to demonstrate that the wastes have been appropriately treated to meet the treatment requirement for each of their regulated constituents.

The waste analysis plan should include the following:

- The requirements for regular and detailed chemical and physical testing of representative samples of the wastes that are treated
- The requirements to ensure that the testing will provide all information necessary to treat the waste in accordance with land disposal treatment requirements
- The frequency with which testing will be conducted
- The treatment method to be used to comply with the land disposal treatment requirements.

The requirement to prepare a waste analysis plan applies to generators that treat waste on-site at the waste generation facility and any off-site treatment facilities. This includes generators that treat characteristic waste on-site to meet the LDR treatment requirements so that the waste shipped off-site is no longer subject waste.

For more detailed information on the contents of the waste analysis plan, please refer to the handbook.

For wastes that are treated at a recycling facility on the HWIN List of Recycling Facilities, a facility approved under the OWRA, or waste-derived fuel or incineration facility, a waste analysis plan is not required when these wastes are processed or disposed. However, a waste analysis plan is required for the processing of any residuals these facilities generate that are subject to land disposal treatment requirements.

5.8.2.3 Record-keeping Requirements

The notification and record-keeping requirements for processors that treat hazardous wastes to meet a land disposal treatment requirement are the same as the notification and record-keeping requirements outlined in the section above for generators.

A waste generation facility or receiving facility that processes hazardous waste to meet a land disposal treatment requirement is required to develop and maintain a written plan while the treatment is occurring, and for at least two years after the facility ceases to treat the waste. The individual responsible for following the plan must record every test result conducted in accordance with the plan, and retain this record for at least two years. The written plan and records must be kept at the site where the processing takes place, and must be made available to the Ministry on request.

5.9 Variances

For each type of hazardous waste, Regulation 347 identifies a corresponding land disposal treatment requirement. However, the Ministry recognizes that there may be special circumstances where meeting a specific treatment requirement for a hazardous waste is not possible before land disposal. Depending on those circumstances, the Ministry may provide some flexibility by granting a variance in the application of a land disposal treatment requirement. Specific variances to a land disposal treatment requirement may be obtained through a Director's letter of equivalent treatment, a Certificate of Approval issued on a case-by-case basis, or through a future amendment to the regulation, if warranted.

During the development of the LDR program, MOE recognized that adequate treatment capacity might not be readily available for all types of hazardous wastes that need treatment before they are land disposed. As a result, the treatment requirements were phased in (e.g., August 31, 2007 and December 31, 2009) through Schedules 10 to 13 of Regulation 347. This phase-in period is referred to as a capacity variance. It was included to provide time for the regulated community to prepare for the new land disposal treatment requirements, and to provide the waste management industry time to respond to Ontario's increased demand for processing capacity. The details of the phase-in dates for each type of hazardous waste are described in 5.10 of this manual.

A waste that has been provided with a specific variance can be land disposed, provided that it is first treated in accordance with the specified variance. However, the waste continues to be subject to any other LDR requirements (e.g., registration, notification, waste analysis plan, etc.). If a variance to a land disposal treatment requirement is obtained, it must be documented on the LDR notification form (Part 2B) of the GRR. A brief description of the variances that may be available is provided below. For additional information on the application of these variances and how to request a variance to a treatment requirement, please refer to the handbook.

5.9.1 Case-by-Case Extension to an Effective Date

This type of variance may be considered in situations where a facility capable of treating or disposing of certain types of hazardous waste to meet the land disposal treatment requirements is not ready to treat these wastes. The variance may be considered when the treatment requirement is either a specific technology method or a numerical standard. In such cases, the variance would allow for alternative treatment requirements for a limited time after the phase-in date for a specific waste stream, either at a waste generation or processing facility.

This type of variance would typically be implemented on a case-by-case basis through a C of A for a waste generation, processing or disposal facility. If warranted, a case-by-case extension could be implemented through an amendment to Regulation 347.

5.9.2 Variance from a Treatment Requirement

This variance may be considered when the land disposal treatment requirement is either a specific technology method or a numerical standard. Typically, the variance would deal with a waste that is significantly different than the waste used to set the land disposal treatment requirement, and would address a specific waste stream at a specific waste generation facility.

In the event that the Ministry considered a variance from a land disposal treatment requirement for a specific waste stream at a waste generation facility, the variance could be implemented on a case-by-case basis through the facility's C of A, or for the C of A for a processing or disposal facility.

When warranted, the Ministry may also consider implementing a generic treatability variance by proposing an amendment to Regulation 347. In such cases, the proponent would need to demonstrate that an alternate technology could be used to accomplish the LDR requirement, or that the treatment requirement specified in the regulation is not attainable using the available technologies. A generic treatability variance could result in a new treatability group and a corresponding land disposal treatment requirement that applies to all wastes that meet the criteria of the new group. Generic treatability variances have already been included in Regulation 347 through the alternate treatment standards for a soil or a soil mixture and a debris or a debris mixture.

5.9.3 Equivalent Treatment Method Variance

This variance may be considered when the land disposal treatment requirement sets out a specific technology. The variance could allow for the use of another type of technology, if a case can be made

that the alternate technology provides an equivalent level of treatment to the technology specified in the regulation.

Regulation 347 contains a provision for this type of variance that allows the Director of the Waste Management Policy Branch, upon Ministry review, to approve an equivalent level of treatment to a specific land disposal treatment requirement. This variance could also be implemented through a Certificate of Approval.

5.10 Phase-In Schedule for LDR Requirements

The LDR program includes various requirements, phased in between March 31, 2006 and December 31, 2009. The key phase-in dates for these requirements are summarized in Table 5.1 below.

Table 5.1 – Summary of phase-in dates for LDR program requirements

Requirements	Phase-In Date
Storage, Mixing and Processing: Waste storage, mixing (including blending, bulking or intermingling) and processing requirements.	March 31, 2006
Waste Registration: Generator registration requirements.	January 1, 2007
Waste Registration: Completion of Part 2A (sections applicable to LDR requirements) and Part 2B of the GRR requirement.	August 31, 2007 (Part 2A – update annually, Part 2B – as required by questionnaire in Part 2A)
Waste Treatment: Land disposal treatment requirements for hazardous wastes in Schedules 10, 11, 12, and 13, excluding mixed hazardous waste. ¹	August 31, 2007
Waste Treatment: Alternate treatment standards for soils affected by a land disposal treatment requirement (please note that Schedule 6 applies ONLY for those regulated constituents listed in Schedule 13).	August 31, 2007
Waste Treatment: Alternate treatment for hazardous debris affected by a land disposal treatment requirement (ONLY to address the regulated constituents listed in Schedule 13).	August 31, 2007
Waste Treatment: Land disposal treatment requirements for hazardous wastes in Schedule 1, Part A and Part B of Schedule 2, Schedule 3 and Schedule 5, including mixed hazardous waste. Schedules 10, 11, 12 and 13 become redundant after this date.	December 31, 2009
Waste Treatment: Land disposal treatment requirements for all regulated constituents listed in Schedule 6 (Universal Treatment Standards).	December 31, 2009
Receiver Notification: Requirement to provide an LDR notification form.	Effective at time land disposal treatment requirement in effect for the waste
Waste Analysis Plan: Requirement for processor of hazardous wastes affected by a land disposal treatment requirement to prepare a plan.	Effective at time land disposal treatment requirements in effect for the waste

¹ The term “mixed hazardous waste” means a hazardous waste or mixture of hazardous wastes that has a waste characterization found in Schedules 10, 11, 12 and 13 (these are hazardous wastes that have treatment requirements that take effect on August 31, 2007), and a waste characterization that is not found in Schedules 10, 11, 12 and 13 (these are hazardous wastes that have land disposal treatment requirements that take effect on December 31, 2009). Simply put, a mixed hazardous waste is a hazardous waste or mixture of hazardous wastes with hazardous waste numbers whose phase-in dates are different for the LDR treatment requirements.

Storage, Mixing and Processing Requirements

The requirements for on-site storage, mixing (including blending, bulking and intermingling) and processing of wastes may apply to waste generation facilities that are used mainly for activities other than waste management, as well as to sites that generate hazardous wastes that are subject to the land disposal treatment requirements. Whether or not these sections of the regulation apply depends on the type of wastes being generated (non-hazardous and hazardous) and the type of waste activities being carried out on-site. These requirements are further discussed in 6.1 of this manual. The Ministry has developed a fact sheet entitled, “Waste Storage, Mixing and Processing Requirements Effective March 31, 2006,” to provide more detailed information on these requirements and is available at <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.

Waste Registration

The requirement for generators to revise their GRR to reflect changes about the information on wastes that require registration, and to include additional information related to the LDR requirements, are being staged, and the staging is based on the phase-in dates of the land disposal treatment requirements for each hazardous waste stream. Generators are required to submit the GRR in a form or format provided by the Ministry. Appendix I of this manual outlines the additional generator registration requirements related to the LDR requirements.

Waste Treatment

Once the land disposal treatment requirements have come into effect for a specific hazardous waste, these wastes must be treated to meet the LDR program’s treatment requirement before they can be land disposed. The requirements are discussed in 5.4 of this manual. The requirements for the alternate treatment standards may apply to a soil or soil mixture or a debris or a debris mixture that is a hazardous waste when the land disposal treatment requirements come into effect for a hazardous waste. These requirements are further discussed in 5.7 of the manual.

Receiver Notification and Waste Analysis Plan

The requirements for notifying a receiver and developing a waste analysis plan may apply to a generator after the land disposal treatment requirements come into effect for a hazardous waste. These requirements are further discussed in 5.8 of the manual.

Other Requirements

The requirements for hazardous wastes produced by a SQG or wastes collected at MHSW depots may apply as the land disposal treatment requirements come into effect for these wastes. These requirements are further discussed in 5.5.1 and 5.5.2 of this manual.

6 WASTE MANAGEMENT

6.1 Managing your Waste

This section of the manual provides information to help generators manage their hazardous wastes appropriately. It discusses what is considered mixing, blending, bulking and intermingling of hazardous wastes at waste generation and waste receiving facilities. It also identifies the main regulatory requirements associated with different waste management options for wastes that are managed on-site and off-site, as well as providing information to help generators understand the provisions of Section 17.1 and Section 17.2 of Regulation 347, which explain when a C of A is required for waste management activities that take place at the waste generation facility.

6.1.1 Mixing, blending and bulking of hazardous wastes

Regulation 347 limits mixing, blending, bulking or other intermingling of hazardous waste with any other waste or material at the waste generation facility, during transfer to a waste transportation vehicle, and at waste disposal sites. The regulatory provisions for waste generation facilities and waste management systems are provided in detail in 6.1.2 and 6.1.4 of the manual.

The mixing, blending and bulking restrictions apply only to hazardous waste. Regulation 347 does not prevent the mixing, blending or bulking of LIW with similar wastes, and the province's restrictions on these activities are most stringent for wastes that are subject to the LDR requirements.

To determine if a waste can be mixed, blended or bulked with other wastes, the generator first has to identify the type of wastes being generated. Each waste must be characterized at the point of generation to determine if it is hazardous, what type of hazardous waste it is, and whether it is subject to LDR requirements. These steps must be completed before it can be determined whether the waste can be mixed, blended or bulked with any other waste or material. In general, the bulking of waste is not prohibited, provided that the wastes are similar in nature (e.g., solids bulked with other solids, liquids bulked with other liquids), they have the same waste number (i.e., same waste class and waste characterizations) and that no processing takes place. Please see 3.1.3 of the manual for more information on when a waste is generated, and 3.5 of the manual for information on waste characterization.

Once the generator has identified the waste characterization, the waste class, and whether the waste is subject to the LDR requirements for each hazardous waste, a determination can be made on whether mixing, blending or bulking of the waste with another waste or material can take place.

In general, the mixing, blending and bulking of hazardous wastes is limited by the physical state of the waste, the waste class and hazardous waste characterization. However, if a waste is subject to the LDR requirements, the type of treatment needed to meet the treatment requirement must also be considered. Only wastes that are amenable to the same treatment may be considered for mixing, blending or bulking, even if they have the same waste class and waste characterization. Considerations that can help in determining when hazardous wastes may be mixed, blended or bulked or separately managed include the following:

- Do the wastes have the same waste class?

- Are the waste characterizations the same for each waste?
- Are the wastes similar in composition and physical state?
- Can the wastes be managed using the same method of treatment or disposal?
- Have the wastes been generated from similar operations?

In general, a “NO” answer for any of the first four considerations above means that the waste streams should not be mixed, blended or bulked.

Generators should also keep in mind that the mixture and derived-from rules apply to certain hazardous wastes (e.g., listed wastes). When one of these wastes is mixed with any other waste or material or when another waste is derived from this waste, the waste retains the original waste characterization (i.e., a listed waste remains a listed waste), even after it has been treated.

The mixture rule ensures that the waste continues to be defined as a hazardous waste, to prevent the avoidance of appropriate waste management because of dilution. This rule applies if a listed waste (or other waste to which the mixture and derived-from rules apply) is mixed with any other waste or material. The mixed waste maintains its classification as a listed waste, and must be managed as such, even if the hazardous nature of the waste was changed through dilution during the mixing process.

As a general rule, wastes that must meet land disposal treatment requirements may be mixed, blended or bulked if all the wastes are amenable to the same treatment to meet the treatment requirement (i.e., different waste streams need to be treated using the same technology) and all regulated constituents identified in the individual waste streams are reported and treated to meet the treatment requirements (for example the bulking has not diluted the regulated constituents that have been identified in the individual wastes streams with no processing taking place).

Wastes that are subject to the LDR requirements may be mixed, blended or bulked on-site if it is part of a treatment process designed to permit the land disposal of the waste. The regulation also allows a generator to mix, blend or bulk different types of wastes that are subject to the LDR requirements if the generator is sending these wastes to a receiving facility that is approved to mix, blend or bulk these different types of wastes. However, the generator would need a document from the receiver confirming that the receiving facility will take the mixed, blended or bulked wastes. If these conditions are met, the generator may mix, blend or bulk these wastes on-site (please see 6.1.2 of the manual).

If mixing, blending or bulking is being conducted at a waste management facility or through a waste management system, the owner/operator of the facility or system should have the C of A updated to reflect the approved activity that is taking place. This should help remove any doubts about the status of different wastes that are being mixed, blended or bulked. A C of A can be amended to identify the specific waste classes that are allowed to be mixed, blended or bulked. Updating the C of A will also help the waste generator comply with the requirements of subsections 17.1 (2) 5 and 17.1 (2) 11, if the generator plans to mix, blend or bulk wastes subject to the LDR requirements on-site, in accordance with a receiver’s C of A.

6.1.1.1 Examples of what is mixing and what is not considered mixing

The following examples are not intended to be exhaustive, but rather to provide guidance for generators with respect to the mixing of hazardous wastes.

Examples of mixing:

- Wastes with the same waste class and waste characterization and the same physical state, unless the waste is subject to LDR requirements, in which case further restrictions may apply
- Wastes that are generated from similar processes (e.g., waste oils collected from various locations within a plant — i.e., bulking)
- Where processing occurs as a result of mixing (e.g., acid and base results in neutralized waste, although additional land disposal treatment requirements may apply)
- Mixing of different waste classes limited to 251, 252 and 253 combined to create 254 at transfer stations
- Wastes that can be processed using the same treatment method to meet land disposal treatment requirements.

Please note that if a waste is subject to the LDR requirements, a C of A may be required, as set out in Section 17.1 of Regulation 347, even in the cases where mixing is allowed such as the cases illustrated above. In some cases, the generator may obtain a C of A for mixing. In other cases, where it is specified in Regulation 347, the C of A for the receiving facility or the waste transportation system may be sufficient, provided that the generator has a document from the facility that confirms its willingness to accept the mixed waste. Please see the following sections of the manual for more information on when a C of A is needed for on-site activities.

Examples of what is not considered mixing:

- Wastes that are not “like” wastes (e.g., oil and solvent)
- Wastes with different primary waste characterizations (e.g., T and H, L and T)
- Wastes that are not in the same physical state (e.g., liquid and solid)
- Wastes that are not similar in composition (e.g., organic and inorganic)
- Wastes that have different land disposal treatment requirements that cannot be achieved using the same method of treatment
- If combining the wastes results in dilution of regulated constituents with no processing taking place (e.g., two wastes that are subject to the LDR requirements with different metal constituents are combined to dilute the metals so that the combined waste is not hazardous for either metal)
- Wastes that are subject to the LDR requirements are combined with wastes that are not subject to the LDR requirements
- Combining wastes to change the nature of the wastes (e.g., a T (leachate toxic) waste and non-hazardous waste combined to create a non-hazardous waste).

Where wastes are combined and it is not considered mixing, the nature of the more hazardous component or the more stringent treatment requirement will apply (e.g., if L and H wastes are mixed, the mixture must be classified as H (the mixture rule). If a waste subject to LDR requirements is mixed with a waste that is not subject to LDR requirements, the entire mixture must be treated to the applicable land disposal treatment requirements.

6.1.2 Regulatory Requirements

The options available to generators for managing their hazardous wastes are outlined in 6.1.1 of the manual. Table 6.1 below outlines the main regulatory requirements associated with each of those waste management options, according to whether the waste is being managed on- or off-site. Each of the

regulatory requirements identified in the table is briefly discussed in this section. Table 6.1 summarizes information that was provided in Section 4 through 6 of this manual.

Registration

All generators of subject wastes are required to register their wastes with the Ministry. The simplest way to do this is online through the HWIN system, although registrations can also be made on paper. No subject waste may be transported within Ontario without a valid generator registration document. Generators are required to register each subject waste stream produced at each operational site. Section 4 above of the manual provides guidance on how to register these wastes.

Generator Registration Fee

Generators of subject wastes are required to pay an annual generator registration fee to the Ministry. The tonnage component of the generator registration fee is applied at the waste generation site, based on the quantity of hazardous waste it generates. This component of the fee applies to all hazardous waste generated at a waste generation facility, whether the waste is shipped off-site or disposed of on-site, except as indicated in Table 6.1. However, the tonnage component of the fee does not apply to wastes that are sent to facilities on the HWIN List of Recycling Facilities. The generator registration fee does not apply to exempt wastes; nor does it apply to a characteristic waste that is treated on-site so that it is no longer a characteristic waste. The generator registration fee is described in more detail in 4.1.5 of this manual.

Land Disposal Restrictions (LDR)

The LDR program requires that generators of hazardous wastes pre-treat these wastes to specified treatment requirements before the wastes can be land disposed. Waste generators are responsible for determining whether Ontario's LDR requirements apply to their waste stream, and for notifying the receiver about the nature of the waste and the treatment standards that must be met.

Land disposal treatment requirements apply to all listed wastes and characteristic wastes that will be land disposed. Restrictions apply to waste that are subject to LDR requirements with respect to mixing, blending and bulking of the waste and other waste processing activities conducted on-site. Waste cannot be diluted in order to avoid meeting the required treatment. Generators that process LDR waste on-site are also required to develop and maintain a waste analysis plan, and maintain records for at least two years.

Table 6.1 - Options for managing hazardous waste and associated regulatory requirements

		Regulatory Requirement							
		Generator Registration		Registration Fee		LDR ¹		Part V (Processor ²)	
Management Option	Type of Waste or Management Method	On-Site	Off-Site	On-Site	Off-Site	On-Site	Off-Site	On-Site	Off-Site
Reuse		N	-	N	-	N	-	N	-
Recycle (S.3)		N	N	N	N	N	N	N	N

HWIN recycling		-	Y	-	N ³	-	N	-	Y
Processing	Hazardous waste other than a listed waste or characteristic waste	Y	Y	Y	Y	N	N	N ⁵	Y
	Listed waste	Y	Y	Y	Y	Y	Y	N ⁵	Y
	Characteristic waste – non-LDR	N	Y	N	Y	N	Y	N ⁵	Y
	Characteristic waste – LDR	Y ⁸ (N ⁹)	Y	N	Y(N ⁴)	Y	Y	N ⁵	Y
Waste-derived fuel		Y	Y	Y	Y	N	N	N/Y ⁶	N/Y ⁶
Disposal	Land disposal – characteristic waste and listed waste	Y	Y	Y	Y	Y	Y	Y	Y
	Land disposal – hazardous waste other than characteristic waste or listed waste	Y	Y	Y	Y	N	N	Y	Y
	Incineration	Y	Y	Y	Y	N	N	Y	Y
	OWRA, sewer	Y	Y	Y	Y	N	N	N	N
Storage		Y	-	N	-	N	-	Y ⁷	-

Notes: “Y” = Yes, “N” = No, “-” = not applicable

¹ Although LDR requirements may not always be applied at the point of generation, wastes generated from these waste management activities must be characterized to determine if the waste is hazardous and subject to the LDR requirements, even if the waste was not considered an LDR waste at the original waste generation facility (e.g., waste that is sent for HWIN recycling).

² In this case, the processor is the generator when the processing is done on-site, and the receiver if the processing is done off-site. If a third party is contracted to process the waste at a waste generation facility, the third party must have a C of A for the mobile treatment unit.

³ Transportation of the waste must be direct from the waste generation facility to the HWIN recycling facility to obtain an exemption from the tonnage component of the generator registration fee.

⁴ The tonnage component of the generator registration fee does not apply if subject waste that is no longer hazardous is treated off-site (i.e., to treat regulated constituents in Schedule 6).

⁵ To be exempt from the requirement for a Part V approval, the on-site processing must be in compliance with Section 17.1 of Regulation 347.

⁶ Sections 28.3, 28.4 and 28.5 of Regulation 347 identify the C of A requirements for waste-derived fuel sites. The requirement is based on the source of the waste-derived fuel, the quantity of waste-derived fuel utilized, and the date the site first began operating.

⁷ A Part V approval is required for the storage of subject waste for periods of more than two years.

⁸ Registration is required if the processed waste or residual from the processing is a subject waste.

⁹ Registration is not required if the processed waste or residual from the processing is not a subject waste.

As indicated in Table 6.1, certain waste management activities, such as HWIN recycling, are not considered to be land disposal. Generators whose waste is not subject to LDR at the waste generation facility are not required to complete the LDR portion (Part 2B) of the generator registration form, and do not need to comply with LDR notification requirements. Although some wastes may not be subject to LDR requirements at the original waste generation facility, wastes that are generated through processing

(i.e., at a facility on the HWIN List of Recycling Facilities) must be characterized, and the processed waste may be subject to LDR requirements at the new point of generation, if the waste is to be land disposed.

An overview of the LDR program is included in 5.2 above of this manual. A separate handbook has been developed for generators whose wastes are subject to the LDR program and is available on the Ministry's website at <http://www.ene.gov.on.ca/envision/land/hazardousWaste.htm> (please see the References section of the manual for further information).

Part V Approval

Section 27 of the EPA states that “no person shall use, operate, establish, alter, enlarge or extend, a waste management system or a waste disposal site, unless a certificate of approval” that authorizes the activity has been issued by the Director. Generators, carriers, processors and receivers of hazardous waste must operate within the parameters of their Part V approval.

Regulation 347 exempts certain activities from the requirements of Section 27 of the EPA. The Section 3 exemptions in Regulation 347 are discussed earlier in this manual. In addition, Section 17.1 of the regulation outlines the provisions with respect to activities that can be carried out at the generator's site without a C of A. These provisions are discussed in more detail in 6.1.3 in this manual.

Generators should note that this manual identifies when a C of A is required under Part V of the EPA (waste approval). Generators should also be aware that they might need to comply with other federal, provincial and local regulations and bylaws.

6.1.3 On-site storage, processing and other waste management practices

Regulation 347 contains provisions that apply to all waste generators with respect to how the waste is managed at their site. These provisions (found in Section 17.1 and Section 17.2 of the regulation) relate to on-site storage, mixing and processing of waste. The on-site waste management provisions (detailed in Section 17.1) apply to both municipal waste and subject waste. The on-site storage provisions (found in Section 17.2) apply only to subject waste.

The on-site waste management practices and on-site storage provisions in Sections 17.1 and 17.2 of Regulation 347 apply to all waste generation facilities that are used mainly for activities other than waste management. Please note that there are specific cases where Sections 17.1 and 17.2 do not apply, and these are described at the end of this section.

6.1.3.1 On-Site Processing and Other Waste Management Practices

Section 17.1 of Regulation 347 applies to all waste generation facilities that handle, mix or process wastes. It identifies the conditions under which a C of A under Part V of the EPA is not required for various types of waste management practices. Generators should note that although a C of A may not be required under Part V of the EPA for these activities, other approval requirements (e.g., for air quality, wastewater discharges) could apply. Generators should also note that Section 17.1 does not apply to a third party who may be contracted to process waste at a waste generation facility, and that in such cases a C of A may be required for mobile waste processing units.

Section 17.1 and Section 17.2 apply to waste generation facilities whose principal function is not waste management. Waste that comes to a waste generation facility from off-site generators must be both legally transported to the facility and legally received by the facility in accordance with Part V of the EPA and Regulation 347.

If the waste is generated on-site, or obtained legally from off-site generators, a C of A is not required for the on-site waste management practices described below. Waste that is obtained at a waste generation facility from off-site generators must be both legally transported to the facility and legally received by the facility in accordance with Part V of the EPA and Regulation 347. Obtaining the waste legally does not

In this section, the use of the term “mixing” includes mixing, bulking, blending or intermingling with any other waste or material.

simply mean that the waste was transported by an approved carrier. Rather, the waste generation facility must also be able receive the waste legally (e.g., have a C of A for this purpose, or not be required to have a C of A to accept the waste).

Waste Handling

No C of A is required for activities related to the production, collection, handling or storage for 24 months or less of subject waste.

Waste Processing

No C of A is required for the processing of waste on-site, unless the processing involves any of the following:

- The combustion or land application of municipal waste, hazardous waste or LIW
- The mixing of any waste or other material with wastes that are subject to LDR treatment requirements, or
- The processing of soil.

There are specific circumstances in which the processing of waste on-site may involve combustion of municipal waste, or the mixing of hazardous wastes that are subject to LDR requirements. In these circumstances, no C of A is required if:

- The processing of municipal waste occurs at an on-site incinerator where no hazardous waste or LIW is incinerated (this specific case is outlined in Section 28 of Regulation 347)
- The processing includes the mixing of characteristic or listed waste with other waste or material if it is part of the processing needed to meet the LDR requirements, or
- The processing includes the mixing of characteristic or listed waste with other waste or material if the waste is transported to a receiving facility that has a C of A that permits this practice, and the receiver has agreed to accept the processed waste.

Waste recycling

No C of A is required for the processing of waste so that it becomes exempt from Part V of the EPA, in accordance with the requirements of paragraph 7 of subsection 3 (1) of Regulation 347.

Wastewater Discharge

No C of A is required for wastes introduced or processed to be introduced into a sewage works or sewage system that is subject to the OWRA, or that was established before August 3, 1957, or that is regulated under Part 8 of Ontario Regulation 403/97 (Building Code) made under the *Building Code Act, 1992*.

Retail Sale

No C of A is required for the packaging or offering of waste for retail sale, or any processing needed to package or offer the waste for retail sale, to meet a realistic market demand.

Waste Transfer to a Waste Transportation Vehicle

A waste generation facility does not need a C of A for the transfer of waste to a waste transportation vehicle in the following three scenarios:

- When municipal waste or subject waste that is not subject to LDR requirements is being transferred
- When hazardous waste that is subject to LDR requirements is being transferred but not mixed with any other waste or material
- When hazardous waste that is subject to LDR requirements is mixed with any other waste or material and being transferred, provided that:
 - the mixing is in accordance with the C of A for the receiving facility, and the carrier has a document from the receiver agreeing to accept the mixed waste, or
 - the mixing is in accordance with the C of A for a waste transportation system that includes the vehicle to which the waste is being transferred.

6.1.3.2 On-Site Storage of Subject Waste

The requirements of Section 17.2 of Regulation 347 apply to waste generation facilities that store subject waste. A summary of these requirements is provided below. In addition to these storage requirements, the Ministry has developed guidelines, entitled “Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities, May 2007.” The guidelines are designed for use by owners, operators and designers of chemical and waste storage facilities, as well as MOE staff. The guidelines will help these user groups to assess the necessary environmental protection measures for chemical and waste storage areas. The guidelines are not intended to replace, but rather to supplement existing codes and regulations. The guidelines are available on the Ministry’s website at http://www.ene.gov.on.ca/envision/env_reg/er/documents/2007/StorageGuidelines.pdf.

Waste generators are required to properly manage wastes at their facilities, and to ensure that the wastes are stored in an environmentally safe manner. Wastes must be stored, handled and maintained to prevent leaks or spills, or damage to or deterioration of the container in which the wastes are stored.

The first time that a subject waste is stored for more than 90 days, generators must provide a notice to MOE’s Regional Director that informs the Ministry about the stored waste and future plans regarding its storage and disposal. The submission of this notice can be made using the Notice of the Storage of Subject Waste provided in Appendix H of this manual. The notice is also available on the Ministry’s Hazardous Waste Rules and Regulations page, which can be accessed through the following link: <http://www.ene.gov.on.ca/en/land/hazardouswaste/hazardouswaste.php>.

Please note that the information submitted in this report meets the legal obligations of Section 17.2 of Regulation 347 with respect to record-keeping. If the notice to the Regional Director is provided in another format, the generator must ensure that all record-keeping requirements are met.

A record of the information submitted to the Regional Director must be retained at the location where the waste is being stored, and kept for at least two years after the waste is no longer stored. Further written notice must be given to the Regional Director within five business days only if there is a change in the original information submitted, or if the waste generation facility closes.

Subject waste **cannot** be stored for more than 24 months at a waste generation facility unless the facility has made a completed application for a Certificate of Approval.

The 90-day storage period begins as soon as a subject waste is first stored at a waste generation facility. The 90-day storage period does not start when a container used to store the waste is full and ready to be shipped off-site for disposal. For waste streams that have a small quantity exemption associated with their primary characteristic, the waste is first considered to be stored when an amount equal to or greater than the SQE amount has been accumulated in a container or other means of storage. In the case of wastes for which there is no small quantity exemption, the 90-day period begins as soon as any amount of the waste is accumulated in a container or other means of storage. A brief discussion on when a waste is generated and becomes a subject waste is included in 3.1.3 above of this manual.

Subject waste cannot be stored for more than 24 months unless a completed application for a C of A has been made to the Ministry. Information on submitting an application can be found in the Ministry's Guide for Applying for Approval of Waste Disposal Sites. After March 31, 2006 — the date on which this requirement was implemented — the 24-month period begins when the subject waste is first stored. This provision is designed to ensure that subject waste is stored appropriately, but not indefinitely. At the same time, it ensures that wastes that are subject to LDR requirements will not be stored indefinitely as a means of avoiding appropriate treatment.

The 24-month limit on storage does not apply to a waste that is stored at a site in a manner that allows it to be emptied or removed and disposed of on a regular basis, more frequently than every 24 months (e.g., waste stored in a drum that is emptied for disposal every six months on an ongoing basis). The requirement for a C of A permitting long-term storage applies to facilities where wastes have been in storage for an extended period of time (e.g., a drum of waste that has been filled and stored for more than two years) and where no reasonable effort has been made to dispose of the waste.

6.1.3.3 Specific Cases Where Section 17.1 and Section 17.2 Do Not Apply

Section 17.1 and Section 17.2 of Regulation 347 do not apply to PCB waste. Generators that handle, store or process PCB waste on-site must do so in accordance with Ontario Regulations 362, 352 and other provisions in Regulation 347. Please also note that there are federal government regulations covering PCB storage and processing that apply to these wastes. Sections 17.1 and 17.2 do not apply to a waste generation facility that receives soil or soil mixtures from off-site. A Certificate of Approval is therefore required to manage these wastes appropriately.

6.1.4 Requirements for Waste Disposal Sites and Waste Management Systems

The following is a summary of the requirements in Section 14.0.1 and 16 (1) 5.1 that deal with the mixing of hazardous wastes for waste disposal sites and waste management systems.

Section 14.0.1 of Regulation 347 provides that hazardous waste which is managed at or transferred to a waste disposal site may only be mixed with other waste or material in accordance with the C of A for the waste disposal site. Paragraph 5.1 of subsection 16 (1) of Regulation 347 provides that hazardous waste transferred to or from, or transported in, a waste transportation vehicle may only be mixed with other waste or material if:

- The mixing is in accordance with the C of A or provisional C of A issued for the receiving facility named in the related manifest, and the carrier has a document from the receiving facility agreeing to accept the mixed waste, or
- The mixing is in accordance with the C of A or provisional C of A for a waste transportation system that includes the waste transportation vehicle.

ENVIRONMENTAL LINKS

Environmental Links	Website Address
Canadian Council of Ministers of the Environment (CCME)	www.ccme.ca
CCME list of websites for other Canadian jurisdictions	www.ccme.ca/about/contacts/jurisdictions.html
Environment Canada homepage	www.ec.gc.ca
Environment Canada – Waste Reduction and Management Division	www.ec.gc.ca/drgd-wrmd/
Land Disposal Restrictions (LDR) Handbook	www.ene.gov.on.ca/envision/land/hazardousWaste.htm
MOE certificates of approval web page	http://www.ene.gov.on.ca/en/business/cofa/index.php
MOE contact information	http://www.ene.gov.on.ca/envision/org/op.htm#Reg/Dist
MOE Hazardous Waste Rules and Regulations page	www.ene.gov.on.ca/envision/land/hazardousWaste.htm
MOE homepage	http://www.ene.gov.on.ca/en/index.php
MOE publications	http://www.ene.gov.on.ca/en/publications/index.php
Ontario statutes and regulations	www.e-laws.gov.on.ca
R.R.O. 1990, Regulation 347, General – Waste Management	http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900347_e.htm
USEPA Land Disposal Restrictions web page	http://www.epa.gov/epawaste/hazard/tsd/td/disposal.htm